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The Interplay Between Economic Hardship, Anomie, and Conspiracy Beliefs in Shaping Anti-Immigrant Sentiment

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ABSTRACT

As hostility toward immigrants grows, it is essential to explore the psychological factors that contribute to anti-immigrant attitudes. Although the impact of economic hardship, societal anomie, and conspiracy belief on anti-immigration attitudes have all been individually studied, their combined impact remains underexamined. Across six studies ($n = 3{,}643$), we investigated how economic hardship and perceptions of societal decline (anomie) predict anti-immigrant attitudes about Non-European immigrants, with anti-immigrant conspiracy beliefs as a potential serial mediator. Study 1a ($n = 491$, UK participants) found that both perceived and actual economic hardship predicted anti-immigrant sentiment (e.g., support for violence against Non-European immigrants) through anomie and conspiracy beliefs, an effect replicated in Study 1b ($n = 493$, Irish participants). Study 2 ($n = 760$) used a quasi-experimental design and found that participants from UK postcode areas with higher income deprivation reported greater anomie, which was linked to belief in Non-European immigrant conspiracy theories and anti-immigrant sentiment. Study 3a ($n = 790$, UK participants) confirmed these associations with experimentally simulated economic hardship in a virtual society; Study 3b ($n = 321$, participants from Ireland) replicated this effect. Study 4 ($n = 788$, UK) demonstrated that individuals experiencing economic hardship, when exposed to conspiracy content, reported significantly higher violent intentions toward immigrants and marginally higher non-violent intentions. Together, these studies, using diverse research designs, provide evidence that economic hardship and anomie may contribute to anti-immigrant sentiment, with conspiracy beliefs potentially mediating these relationships.

1 | Introduction

On Friday, 10th February 2023, hundreds of people gathered at the Suites Hotel in Merseyside, United Kingdom, to protest the presence of asylum seekers (Scripps and Marsden 2023). The protest escalated into violence, with demonstrators throwing fireworks at police and setting a police vehicle ablaze. Since the protests, asylum seekers and hotel staff have been subjected to ongoing abuse, harassment, and even physical assault. This incident is not an isolated case. Similar attacks on hotels housing migrants occurred throughout 2023 and into 2024, particularly during the UK riots in August 2024 (e.g., Sinmaz and Vinter 2024). Over recent years, hostile sentiments towards immigrants in the UK have intensified, with a recent Sky News poll finding that 43% of respondents had negative views about the impact of immigration (Cheshire 2024).

A key feature often accompanying anti-immigrant sentiments is the belief in conspiracy theories, which claim that political and social events are secretly manipulated by powerful groups (Douglas et al. 2019; Douglas and Sutton 2023). Migration, in particular, is a recurring theme in such theories. For example, claims that migrants from Muslim-majority countries are

covertly plotting to replace European culture and implement Sharia law have gained traction (Bergmann 2018; Obaidi et al. 2022). These narratives do not exist in isolation but significantly impact individuals and societies. They foster prejudice (e.g., Bertin et al. 2022), influence political choices (e.g., Jolley et al. 2021), and, in some cases, encourage violence (e.g., Vegetti and Littvay 2021; Schrader et al. 2024).

Given the pervasive influence of these narratives, it is crucial to understand how conspiracy beliefs contribute to anti-immigrant sentiments. Specifically, exploring the role of contextual factors such as economic hardship and societal disillusionment (i.e., anomie) can help uncover why such beliefs take root and explain their consequences for attitudes and behaviours towards immigrants. Across six studies, we examined the interplay between economic hardship, anomie, and conspiracy beliefs about immigrants and their impact on various measures of anti-immigrant sentiment, including policy stances and behavioural intentions toward violence.

1.1 | Conspiracy Theories and Anti-Immigrant Sentiment

Conspiracy theories frequently arise in intergroup contexts, particularly when groups are perceived as being in conflict (Douglas et al. 2017; van Prooijen 2024). These beliefs are linked to a range of intergroup prejudices, including antisemitism (Allington et al. 2023; Kofta et al. 2020) and Islamophobia (Obaidi et al. 2022; Swami et al. 2018). Unsurprisingly, they also play a central role in discussions surrounding immigration, particularly concerning Non-European immigrants (Gaston and Uscinski 2018).

Conspiracy theories related to Non-European immigration often revolve around fears of demographic change, such as the "Eurabia" or "Great Replacement" theories that accuse Muslim immigrants of seeking to erase European culture (Bergmann 2018). Others focus on economic anxieties, accusing governments of encouraging immigration to displace native workers (Gaston and Uscinski 2018). Empirical evidence supports the connection between general conspiracy theorizing and support for anti-immigration policies (Pellegrini et al. 2019), as well as for right-wing populist parties (e.g., AfD in Germany; Decker 2016). Moreover, exposure to specific anti-immigrant conspiracy narratives can increase prejudice against immigrants (Jolley et al. 2020a).

These conspiracy beliefs are not just theoretical - they have real, often troubling, consequences (Jolley et al. 2020b, 2022). Individuals who hold strong conspiracy beliefs are more likely to reject basic human rights (Swami et al. 2012). Sometimes, these beliefs can lead to violent outcomes, as conspiracy beliefs have been found to positively correlate with support for political violence (Vegetti and Littvay 2021) and violent intentions (Obaidi et al. 2022; Rottweiler and Gill 2020; Jolley and Paterson 2020; Schrader et al. 2024). This aligns with insights from the broader literature on extremism, which suggests that distressing societal circumstances can give rise to conspiracy beliefs (van Prooijen and Douglas 2017). These circumstances can increase people's vulnerability to radical beliefs in general (e.g., see significance quest theory; Kruglanski et al. 2022). While research has established the relationship between conspiracy beliefs and violence, the reasons underlying the connection between conspiracy beliefs, anti-immigrant sentiment, and violent intentions remain underexplored. Additionally, we know little about the broader societal conditions, such as economic hardship and anomie, that may serve as a breeding ground for such beliefs and behaviors.

1.2 | Precursors to Anti-Immigrant Conspiracy Beliefs: Economic Hardship and Anomie

Economic hardship is an important contextual factor to consider in understanding the endorsement of anti-immigrant conspiracy beliefs, which may lead to conspiracy-fuelled violence. Characterised by financial instability and unmet basic needs, economic hardship stems from unemployment, low income, or rising living costs and has profound psychological and social impacts (e.g., Conger et al. 1994; Gallie 2013). It can exacerbate mental health challenges (e.g., Frankham et al. 2020), heighten distrust in institutions (e.g., Brady and Burton 2016), and, importantly for the current research, increase susceptibility to conspiracy beliefs (e.g., Freeman and Bentall 2017; Radnitz and Underwood 2017).

Economic hardship may provide fertile ground for conspiracy theories - including anti-immigrant ones - by promoting societal anomie, defined as a sense of discomfort about declining social order (Durkheim 1897/1951). Specifically, economic hardship may evoke disillusionment and create feelings of competition over scarce resources, which in turn increases the appeal of (anti-immigrant) conspiracist narratives that offer false promises of epistemic relief (Douglas et al. 2017; Hattersley et al. 2022). Consistent with this idea, belief in conspiracy theories correlates positively with anomie (e.g., Abalakina-Paap et al. 1999; Marques et al. 2022; Swami 2012). Similarly, economic hardship, measured by low income, predicts anomie (e.g., Agnew 1980).

Thus, these findings suggest that economic deprivation may heighten perceptions of societal breakdown, making conspiracy theories that scapegoat immigrants more appealing as a route to epistemic relief. These beliefs may, in turn, encourage anti-immigrant attitudes and behaviours. Some preliminary evidence supports this idea. Lower-income individuals are more likely to believe that systems are rigged against them (Uscinski and Parent 2014), and citizens of countries with lower GDP tend to have higher conspiracy beliefs (Hornsey et al. 2023). Additionally, financial precarity is associated with conspiracy beliefs (Adam-Troian et al. 2023), likely due to the perception of societal breakdown (cf. Agnew 1980; Marques et al. 2022). Additionally, economic inequality, perceived or real, has been shown to drive conspiracy thinking via anomie (Salvador Casara et al. 2022), with economic inequality perceived as greater by people experiencing objective or relative economic hardship (Salvador Casara et al. 2022; Jetten et al. 2021; Willis et al. 2022). Together, these studies demonstrate how general conspiracy beliefs can be fuelled by economic hardship, influencing attitudes toward societal issues.

2 | Present Research

To our knowledge, no research has specifically examined how economic hardship - particularly when it heightens perceptions of societal breakdown - affects anti-immigration conspiracy theories, especially those targeting Non-European immigrants (e.g., "Great Replacement" conspiracy theories). Given the link between such conspiracy theories and violent behaviours (e.g., Obaidi et al. 2022), our study takes a timely approach to understanding how economic hardship and anomie fuel anti-immigration conspiracy theories and, in turn, influence violent behaviours.

Moreover, while previous research has explored economic hardship, anomie, and conspiracy beliefs separately (e.g., Agnew 1980; Uscinski and Parent 2014; Marques et al. 2022), no study has investigated their combined effects on anti-immigrant sentiment and violence. Our research addresses this gap by testing a theoretical model (see Figure 1) across six studies. Specifically, in each study, we hypothesised that economic hardship will increase anomie, which will, in turn, heighten conspiracy beliefs about Non-European immigrants, ultimately shaping anti-immigrant sentiment (H1).

We measured anti-immigrant sentiment in several distinct ways. We included a measure of violent (e.g., physical attacks on immigrants) and non-violent (e.g., boycotting organisations that support immigrants) intent toward immigrants. We also provided participants with a description of a real-life violent attack on immigrants and asked whether they found those behaviours justified. Finally, we sought participants' views on policies relating to immigration (e.g., refugees receiving social welfare payments). Therefore, we examined a broad range of anti-immigrant sentiments, including personal and policy-level actions, justification of violence, and reduced support for public policies favouring immigrants.

We also measured general negativity (prejudice) toward Non-European immigrants. Given that behaviour towards outgroups, particularly violent behaviour, is often driven by prejudice (e.g., Messner et al. 2004; Parrott and Zeichner 2005), and because prejudice has been linked to conspiracy beliefs (e.g., Freelon 2024, for a review), it was necessary to control for general negativity in the present research. This allowed us to determine whether conspiracy beliefs independently influence violent and non-violent behaviours, as well as policy support toward non-European immigrants, beyond the effects of prejudice. Where possible, we therefore controlled for such general negativity.

A further novel aspect of this study is the use of diverse methodological designs to test our theoretical model across two similar but distinct countries – the United Kingdom (UK) and the Republic of Ireland. This cross-country replication capitalises on both shared features and key differences between these countries and strengthens the generalisability of our findings. In Study 1a with UK participants, we tested our theoretical model using a cross-sectional design focused on individual experiences of economic hardship. Study 1b used a similar design with Irish participants. In Study 2, we employed a quasi-experimental design, recruiting participants from areas of high versus low economic deprivation in the UK to manipulate hardship. In Study 3a, we experimentally manipulated individual experiences of economic hardship (high vs. low wealth) within a virtual society, using UK participants as the test subjects. Study 3b was identical but with Irish participants. Finally, Study 4 extended the investigation with UK participants by manipulating both economic hardship (high vs. low wealth) and exposure to conspiracy theories (conspiracy exposure vs. control). Across all studies, we consistently measured anomie, conspiracy beliefs, and various forms of anti-immigrant sentiment alongside prejudice. Pre-registration documents (where applicable), data, and materials can be accessed via https://osf.io/pngc6/[1].

3 | Study 1a

In Study 1a, we tested our theoretical model (see Figure 1) using a serial mediation analysis. We assessed economic hardship through two measures: actual hardship and perceived hardship. Including both measures allows us to explore the roles of objective and subjective experiences in the same statistical model. We hypothesised that both would predict increased anomie, which, in turn, would predict stronger Non-European conspiracy beliefs. These conspiracy beliefs were then expected to be linked to anti-immigrant sentiment after controlling for prejudice (H1). Study 1a was not pre-registered.

4 | Methods

4.1 | Participants and Design

Based on recommendations for path analyses (Wolf et al. 2013) and accounting for dropouts, 500 UK-based participants were recruited from Prolific. Seven participants were excluded for failing to pass an attention check ("click '5' for this question"), and two additional participants were excluded due to extensive missing data (more than 50% of items unanswered on at least one measure). The final sample size consisted of 491 participants (243 male, 245 female, 1 nonbinary, and 2 withheld; $M_{age} = 42.97$, SD = 13.80).

The study employed a cross-sectional design in which actual and perceived economic hardship served as predictor variables,

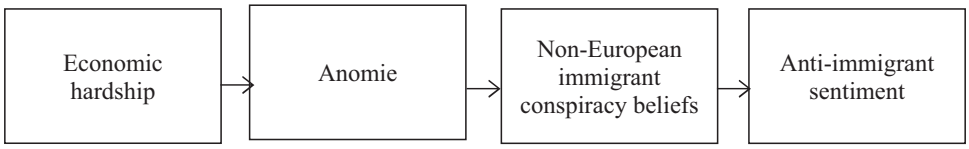

FIGURE 1 | Theoretical Model Tested in Studies 1a to 4.

anomie and conspiracy beliefs as serial mediators, and anti-immigrant sentiment as the outcome variable. We also measured prejudice to control for general negativity towards Non-European immigrants.

4.2 | Materials and Procedure[2]

After providing their informed consent, participants completed two measures of economic hardship presented in a random order. First, participants completed the Economic Hardship Questionnaire (Lempers et al. 1989) as a measure of actual hardship, which asks participants to consider the past 6 months and indicate whether they have changed their financial spending (e.g., "*postpone clothing purchases*", "*reduce household utility use*", 1 = "never" to 4 = "very often"; $\alpha = 0.88$). Two additional single-item questions were included to gather details of their income and general financial situation: "*Which of the following best describes what has happened to your income during the past 6 months*?" answered on a five-point scale from 1 (has increased very much) to 5 (has decreased very much) and "*which of the following best describes your financial situation at the time*?", answered on a four-point scale (no problem; minor problems; major problems; extreme problems). On average, participants reported that their income had remained stable over the past 6 months; however, they experienced minor financial difficulties in their current situation.

The second measure was a self-reported single-item measure of perceived economic hardship relative to others adapted from McGuffog et al. (2023). Participants were shown an image of a ladder with rungs numbered from 0 to 10, where 10 represented individuals *most heavily impacted* by the current cost-of-living crisis in their country and 0 represented those *least heavily impacted*. Participants were asked to consider their own current situation and indicate where they would place themselves on the ladder. All remaining measures were completed in random order.

Participants then completed a 5-item questionnaire to measure anomie (McCarthy et al. 2021, e.g., "*Compared to the UK I knew before, I barely recognise what this country is becoming*", $\alpha = 0.87$, 1 = strongly disagree, 7 = strongly agree), before completing an 8-item measure of anti-immigrant conspiracy theories adapted from previous literature (Jolley et al. 2020a, e.g., "*Non-European immigrants work in secret to destabilise the British economy*", $\alpha = 0.95$, 1 = highly unlikely, 7 = highly likely).

Next, participants completed various questions exploring anti-immigrant sentiment. First, they completed a custom 10-item measure of support for various immigration policies (e.g., "*Provide Non-European refugees and asylum seekers the full rate of social welfare payment and child benefits*", $\alpha = 0.93$, 1 = strongly oppose, 7 = strongly support).

Second, participants' behavioural intentions towards Non-European immigrants were measured using a two-part questionnaire adapted from Jolley and Paterson (2020). The first part included a list of eight behaviours towards immigrants, including four violent (e.g., "*Physical attacks on Non-European immigrants*"; $\alpha = 0.94$) and four non-violent behaviours ("*Boycotts of organisations you believe support Non-European immigration*"; $\alpha = 0.86$). Participants rated how likely they were to behave in such ways towards Non-European immigrants, on a scale from 1 (highly unlikely) to 7 (highly likely). In the second part, participants read a short news article describing a real-life violence incident in the UK (the Merseyside Suites hotel attack). Participants were asked to what extent they believed the attacks described in the article were justified, on a scale from 1 (unjustified) to 7 (justified).

We also included two measures of prejudice towards immigrants as control variables. The first was a single-item measure of affective prejudice (Haddock et al. 1993). Participants were shown a graphic of a "feeling thermometer" and asked to indicate their feelings towards Non-European immigrants on a scale from 0 (extremely unfavourable) to 100 degrees (extremely favourable). The second measure was a 4-item adaptation of Bogardus (1926) 4-item measure of behavioural prejudice, which was modified to refer to Non-European immigrants (e.g., "*I would be willing to have a Non-European immigrant as a close personal friend*", $\alpha = 0.96$, 1 = strongly disagree, 7 = strongly agree). For both measures, scores were recoded, meaning high scores indicate less favourable feelings and behavioural intentions, respectively, and therefore more prejudice. Demographic information (age and gender) was requested before participants were thanked and debriefed.

5 | Results

Non-parametric analyses were conducted since some variables exhibited significant skew. Spearman's rank correlation and descriptive statistics are presented in Table 1. As expected, perceived and actual economic hardship was positively correlated with both anomie and belief in Non-European immigrant conspiracy theories. Actual hardship was unrelated to all other measures, including prejudice, making it a suitable control variable. Perceived hardship compared to others was positively correlated with the justification of real-life violence and was unrelated to all other measures.

Also, as expected, anomie and conspiracy beliefs were positively correlated. Moreover, both anomie and conspiracy beliefs were positively correlated with the real-life justification of violence against Non-European immigrants and with both violent and non-violent anti-immigrant intentions and negatively correlated with support for pro-immigration policies. Anomie and conspiracy beliefs were positively correlated with both measures of prejudice and more hostile anti-immigrant sentiments.

5.1 | Hypothesis Testing: Path Analysis

We conducted path analysis using 95% bias-corrected confidence intervals with 5,000 bootstrap resamples to test a serial mediation model (see Figure 1). Actual and perceived economic hardship were entered as predictor variables, with anomie and belief in Non-European immigrant conspiracy beliefs as serial mediators. Violent intent, real-life violent justification, non-violent intent,

TABLE 1 | Study 1a ($n = 491$) Spearman's Rank Correlations and Descriptive Statistics.

Variables	1	2	3	4	5	6	7	8	9	10
1. Perceived economic hardship	—	0.45***	0.21***	0.13**	0.10*	0.07	0.06	−0.07	0.05	0.07
2. Actual economic hardship		—	0.21***	0.13**	0.07	0.05	0.03	−0.02	0.02	0.07
3. Anomie			—	0.62***	0.14 **	0.42***	0.53***	−0.63***	0.53***	0.54***
4. Non-European immigrant conspiracy beliefs				—	0.28***	0.52***	0.66***	−0.68***	0.59***	0.64***
5. Violent intent					—	0.47***	0.42***	−0.23***	0.22***	0.30***
6. Real-life violent justification						—	0.58***	−0.50***	0.44***	0.51***
7. Non-violent intent							—	−0.64***	0.59***	0.65***
8. Policy support								—	−0.67***	−0.71***
9. Affective prejudice									—	0.70***
10. Behavioural prejudice										—
Study 1a M (*SD*)	6.29 (2.14)	2.15 (0.67)	4.14 (1.51)	2.27 (1.45)	1.19 (0.75)	1.68 (1.36)	1.62 (1.16)	4.57 (1.46)	26.07 (26.07)	2.22 (1.58)

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

and policy support toward Non-European immigrants were entered as the outcome variables. Prejudice (affective and behavioural) was controlled in the analysis[3]. This model, based on our theoretical predictions, was a reasonably good fit for the data after freeing three parameters (i.e., adding covariance paths between violent and non-violent intentions, and both intention measures with real-life justification), $\chi^2(17) = 74.384$, $p = < 0.001$, CFI = 0.98, NFI = 0.97, SRMR = 0.03, RMSEA = 0.08.

In this model (see Figure 2), actual and perceived economic hardship positively predicted anomie. Anomie was a positive predictor of non-European immigrant conspiracy beliefs. non-European immigrant conspiracy beliefs positively predicted violent intent, real-life violent justification, and non-violent intent toward non-European immigrants. Conspiracy beliefs were also a negative predictor of policy support to help non-European immigrants. Importantly, as a test of our predictions (H1, see Table 2), there was a positive indirect effect of actual and perceived economic hardship on all anti-immigrant sentiment measures via anomie and belief in conspiracy theories.

5.2 | Alternative Model

We also tested an alternative model in which we reversed the order of the serial mediators (conspiracy beliefs > anomie). This model showed a relatively poorer fit than the original, with an unacceptable RMSEA (MacCallum et al. 1996), $\chi^2(16) = 121.308$, $p < 0.001$, CFI = 0.96, NFI = 0.96, SRMR = 0.05, RMSEA = 0.12. Importantly, the Akaike Information Criterion (AIC) indicated the empirical superiority of the original model (AIC = 162.501) over the alternative (AIC = 219.308). These results further support our theoretical position that the optimal model is from anomie to conspiracy beliefs.

6 | Study 1b

The findings of Study 1a provide the first empirical test of our theoretical model, suggesting that economic hardship could drive anti-immigrant sentiment through perceptions that society is crumbling (i.e., anomie) and how this perception may influence conspiracy beliefs held toward others. Our data supports the central hypothesis since the pattern of results was consistent both when controlling for prejudice and without it. In Study 1b, we sought to replicate the findings of Study 1a in an Irish sample to examine the generalisability of the results. As in Study 1a, we predicted a simple and serial mediation (https://aspredicted.org/KSM_MYT). As serial mediation is more aligned with our theoretical model tested in each study (see Figure 1), we only report the pre-registered serial mediation in the manuscript (i.e., our central H1).

7 | Method

7.1 | Participants, Materials and Procedure[4]

Study 1b was identical to Study 1a, except that participants were recruited from the Republic of Ireland. While 501

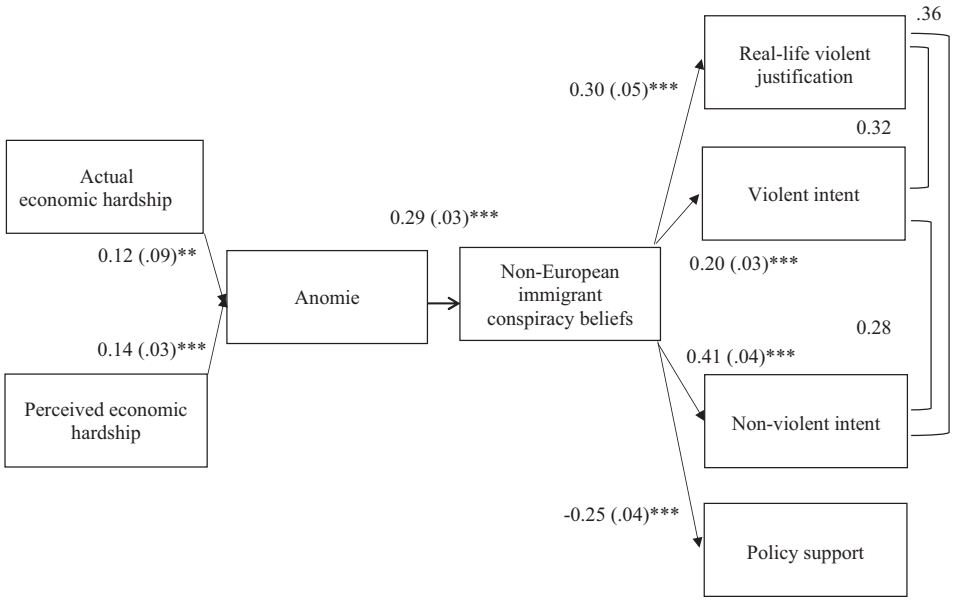

FIGURE 2 | Path Model Examining a Serial Mediation Test of Actual and Perceived Economic Hardship, Respectively, on Anti-Immigrant Sentiment (Violent Intent, Real-Life Violent Justification, Non-Violent Intention, and Policy Support, Respectively), Through Anomie and non-European Immigrant Conspiracy Beliefs in Study 1a ($n = 491$), Controlling for Affective And Behavioral Prejudice. *Note:* $^{**}p < 0.05$. $^{***}p < 0.001$. Standardized coefficients are reported.

TABLE 2 | Path Analysis Tested the Indirect Effect of Economic Hardship (Perceived and Actual) via Anomie and non-European Immigrant Conspiracy Beliefs on Anti-Immigrant Sentiment, Controlling for Prejudice in Study 1a ($n = 491$) Using 5000 Bootstrap Samples and 95% Bias-Corrected Confidence Intervals.

	Actual economic hardship				Perceived economic hardship			
Outcome variables	**β**	***SE***	**95% CI**	***p***	**β**	***SE***	**95% CI**	***p***
Violent intent	0.01	0.01	0.002, 0.021	0.010	0.003	0.003	0.001, 0.007	0.008
Real-life violent justification	0.02	0.02	0.007, 0.047	0.001	0.01	0.01	0.003, 0.016	0.001
Non-violent intent	0.03	0.02	0.009, 0.051	0.001	0.01	0.01	0.004, 0.018	0.001
Policy support	−0.02	0.02	−0.039, −0.007	0.001	−0.01	0.01	−0.014, −0.003	0.001

participants were initially recruited from Prolific (as in Study 1a), four were excluded for failing an attention check ("click '5'") and 4 for extensive missing data (> 50% per measure). The final sample was 493 (166 male, 322 female, 1 non binary, 4 withheld), with a *Mean age* = 36.16 (SD = 11.04, 3 withheld). On average, like Study 1a, participants reported that their income had remained stable in the past 6 months but that their current financial situation had minor problems. The same procedure was followed as in Study 1a but made relevant to the Irish context; all questionnaires were internally reliable ($\alpha_{\text{Actual economic hardship}} = 0.83$, $\alpha_{\text{Conspiracy}} = 0.92$, $\alpha_{\text{Policy}} = 0.88$, $\alpha_{\text{Anomie}} = 0.86$, $\alpha_{\text{Violent Intention}} = 0.89$, $\alpha_{\text{Non-Violent Intention}} = 0.84$, $\alpha_{\text{Behavioral Prejudice}} = 0.93$).

8 | Results

Table 3 contains Spearman's rank correlations and descriptive statistics. As in Study 1a, perceived and actual economic hardship was positively correlated with anomie and belief in non-European immigrant conspiracy theories. Perceived hardship was again positively correlated with justification of real-life violence. Both hardship measures were negatively correlated with support for pro-immigration policies and uncorrelated with any other measures, including prejudice, making it a suitable control variable.

Once more, anomie and conspiracy beliefs were strongly positively correlated with each other. Both measures were positively correlated with the real-life justification of violence against non-European immigrants and with both violent and non-violent anti-immigrant intentions. Both measures were negatively correlated with support for pro-immigration policies and both prejudice measures (therefore reflecting higher prejudice). Thus, anomie and conspiracy beliefs were again associated with more hostile sentiments towards non-European immigration.

8.1 | Hypothesis Testing: Path Analysis

We sought to replicate the serial mediation model as in Study 1a, controlling for prejudice[5]. Again, the model was a good fit for the

TABLE 3 | Study 1b ($n = 493$) Spearman's Rank Correlations and Descriptive Statistics.

Variables	1	2	3	4	5	6	7	8	9	10
1. Perceived economic hardship	—									
2. Actual economic hardship	0.53***	—								
3. Anomie	0.26***	0.22***	—							
4. non-European immigrant conspiracy beliefs	0.13**	0.14***	0.52***	—						
5. Violent intent	0.05	0.02	0.13*	0.23***	—					
6. Real-life violent justification	0.07	0.09*	0.32***	0.40***	0.40***	—				
7. Non-violent intent	0.06	0.05	0.32***	0.48***	0.39***	0.40***	—			
8. Policy support	−0.11*	−0.12**	−0.49***	−0.59***	−0.14*	−0.32***	−0.46***	—		
9. Affective prejudice	0.00	0.00	0.40***	0.50***	0.08	0.26***	0.40***	−0.62***	—	
10. Behavioural prejudice	−0.01	0.01	0.36***	0.51***	0.26***	0.39***	0.45***	−0.50***	0.52***	—
Study 1b M (*SD*)	6.38 (2.10)	2.24 (0.64)	3.90 (1.52)	1.82 (1.09)	1.08 (0.41)	1.33 (0.94)	1.38 (0.93)	4.63 (1.03)	27.44 (21.10)	1.66 (1.04)

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

data after freeing the same three parameters, $\chi^2(18) = 52.290$, $p = < 0.001$, CFI = 0.99, NFI = 0.98, SRMR = 0.03, RMSEA = 0.06. The same pattern of the data also emerged (see Figure 3), where notably, there was a positive indirect effect of both actual and perceived economic hardship on all anti-immigrant sentiment measures via anomie and belief in conspiracy theories (see Table 4).

8.1.1 | Alternative Model

Like Study 1a, we also tested an alternative model in which we reversed the order of the serial mediators (conspiracy beliefs > anomie). Again, this model showed a relatively poorer fit than the original, with an unacceptable RMSEA (MacCallum et al. 1996), $\chi^2(18) = 172.995$, $p = < 0.001$, CFI = 0.91, NFI = 0.90, SRMR = 0.06, RMSEA = 0.13. Importantly, the Akaike Information Criterion (AIC) indicated the empirical superiority of the original model (AIC = 146.290) over the alternative (AIC = 266.995). These results further support our theoretical position that the optimal model is from anomie to conspiracy beliefs.

9 | Study 1a and 1b Discussion

In summary, the results of Studies 1a and 1b provide empirical support for the role of economic hardship being linked with anomie and conspiracy beliefs, which may then translate into anti-immigrant sentiment, including violent reactions. These results provide direct support our central H1, demonstrating robust effects across both UK (1b) and Irish (1b) samples. The pattern of results was also consistent both when controlling for prejudice and without it. However, the findings of these two studies are limited by their correlational design, which restricts any causal conclusions. In Study 2, we tested our hypotheses by recruiting participants from areas with high (vs. low) income deprivation.

10 | Study 2

To provide a quasi-manipulation of economic hardship, we recruited participants from UK postcode areas characterized by high- or low-income deprivation levels. We then compared participants on measures of anomie, conspiracy belief, and anti-immigration sentiment. Therefore, the hypotheses were tested in the same manner as in Study 1a (i.e., our central H1). We predicted that the effects would hold when controlling for a range of demographics (age, gender, ethnicity, education, time living in postcode area) and prejudice (https://aspredicted.org/W2V_DQ8[6]).

11 | Method

11.1 | Participants and Design

We recruited 800 England-based participants via Prolific: 400 from more deprived postcode areas and 400 from less deprived

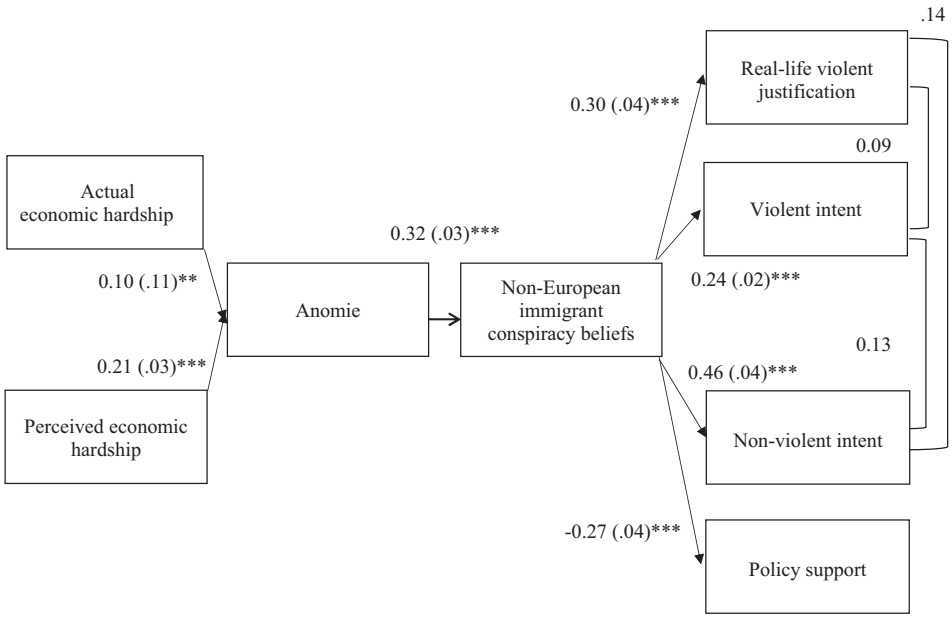

FIGURE 3 | A Path Model Examining a Serial Mediation Test of Actual and Perceived Economic Hardship, Respectively, on Anti-Immigrant Sentiment (Violent Intent, Real-Life Violent Justification, Non-Violent Intention, and Policy Support, Respectively), Through Anomie and Non-European Immigrant Conspiracy Beliefs in Study 1b ($n = 493$), Controlling for Affective and Behavioral Prejudice. *Note:* $^{**}p < 0.05$. $^{***}p < 0.001$. Standardized coefficients are reported.

TABLE 4 | Path Analysis Testing the Indirect Effect of Economic Hardship (Perceived and Actual) via Anomie and non-European Immigrant Conspiracy Beliefs on Anti-Immigrant Sentiment, Controlling for Prejudice in Study 1b ($n = 493$) Using 5000 Bootstrap Samples and 95% Bias Corrected Confidence Intervals.

	Actual economic hardship				Perceived economic hardship			
Outcome variables	***β***	***SE***	**95% CI**	***p***	***β***	***SE***	**95% CI**	***p***
Violent intent	0.010	.003	0.000, 0.015	0.028	0.003	0.003	0.001, 0.007	0.003
Real-life violent justification	0.01	0.01	0.001, 0.036	0.036	0.01	0.003	0.004, 0.016	0.001
Non-violent intent	0.02	0.01	0.001, 0.051	0.036	0.01	0.003	0.007, 0.025	0.001
Policy support	−0.02	0.01	−0.038, −0.001	0.043	−0.01	0.004	−0.018, −0.005	0.001

postcode areas, filtered using Prolific's screening questions. These postcode areas were selected based on their overall income distributions as determined by Office of National Statistics (Office of National Statistics 2019) data. We chose all postcode areas that fit two criteria. Firstly, to minimize the probability of sampling more deprived participants from less deprived areas and vice versa, we selected postcode areas with income distributions that were skewed in one direction or the other (i.e., more or less). Secondly, we restricted the sample to postcode areas classified as "Urban with City and Town" by the ONS to ensure comparable population sizes. At the end of the survey, we asked participants to indicate their postcode area. Thirty-one were excluded because they indicated a different postcode area than the one provided in Prolific's screening questions. Four were excluded for failing an attention check ("click '5'), and another four for extensive missing data ($> 50\%$ per measure). The final sample size consisted of 760 participants (318 male, 437 female, four nonbinary, 1 withheld; $Mage = 43.68$, $SD = 13.78$). Across conditions, and similarly to Study 1, participants reported that their income had remained stable over the past 6 months, but they were experiencing minor financial problems in their current situation.

The economic condition was the independent variable (low vs. high deprivation); 377 usable participants were from the high-deprivation postcode areas (i.e., experiencing more hardship), and 383 were from the low-deprivation postcode areas (i.e., experiencing less hardship). Anomie and conspiracy beliefs were potential serial mediators, and anti-immigrant sentiment was our outcome variable. Prejudice served as a control variable, alongside a range of demographic variables (age, gender, ethnicity, education, and time living in the postcode area).

11.2 | Materials and Procedure

After providing informed consent, participants completed a measure of perceived and actual ($\alpha = 0.87$) economic hardship, alongside the one-item questions on income and general financial situation, as in Study 1. These were used to

check the quasi-manipulated variable using participants' postcodes. While we found no differences in the perception of hardship ($p = 0.410$) nor reductions in spending within the last 6 months ($p = 0.942$) between conditions, we did find differences in income and how participants described their financial situation. Specifically, participants living in more deprived postcode areas were more likely to report that their income had decreased over the last 6 months ($M = 2.84$, $SD = 0.78$) and that their current financial situation is problematic ($M = 2.01$, $SD = 0.77$) compared to those in less deprived postcode areas ($M = 3.03$, $SD = 0.72$, $t(758) = 3.405$, $p < .001$, $d = 0.25$; $M = 1.87$, $SD = 0.67$, $t(758) = 2.912$, $p = 0.002$, $d = 0.22$). Additionally, participants from more deprived postcode areas reported lower income ($M = 3.60$ [approx. 20–30k p/a], $SD = 2.01$) compared to those from less deprived postcode areas ($M = 4.02$ [approx. 30–40k p/a], $SD = 2.19$, $t(718) = 2.649$, $p = 0.008$, $d = 0.20$). Together, these findings provide evidence that the conditions reflect a quasi-experimental manipulation of higher versus lower economic income disparity, thereby serving as a manipulation of economic hardship.

Study 2 then used identical materials and procedure as reported in the main text for Study 1; all questionnaires were internally reliable ($\alpha_{Conspiracy} = 0.97$, $\alpha_{Policy} = 0.93$, $\alpha_{Anomie} = 0.81$, $\alpha_{Violent\ Intention} = 0.96$, $\alpha_{Non\text{-}Violent\ Intention} = 0.82$, $\alpha_{Behavioural\ Prejudice} = 0.96$). After completing the questionnaires, participants provided demographic information (including income on a 1 = *£1–£10,000 per annum to 10 = over £90,000 per annum* categorical scale) before being thanked and debriefed.

12 | Results

As some variables exhibited significant skew, Spearman's Rank correlations are shown in Table 3. The same correlation pattern emerged as in Study 1. We then examined differences in the mediators, followed by the outcome variables. Notably, and as shown in Table 5, participants from high-deprivation postcodes reported higher levels of anomie, conspiracy belief, and non-violent intentions than those from low-deprivation postcodes. Moreover, they also reported lower levels of support for policies to support immigrants. No differences emerged between conditions, however, in violent intentions or endorsement of real-life violence. However, while prejudice was not correlated with actual and perceived economic hardship (Table 5), we did uncover differences in levels of prejudice between experimental conditions (Table 6), indicating that this variable cannot be used as a control in the analyses as intended.

12.1 | Hypothesis Testing—Path Analysis

As in Study 1a and 1b, we examined a saturated serial mediation model to test whether economic condition (low vs. high hardship) predicted anti-immigrant sentiment through anomie and conspiracy theory beliefs (see Figure 4). The model we ran included a range of demographic controls in which gender, ethnicity and education were treated as binary variables (following a similar procedure by Morandini et al. 2015). Male, white British ethnicity, and tertiary degree were coded as 1, whereas female, nonwhite ethnicities and no tertiary degree were coded as 0. Those who indicated that they preferred not to answer or identified as nonbinary in the case of gender were excluded, resulting in a sample size of 751 for the path analysis. Age and years living in the current location were kept in interval form. A full demographic frequency table is available in the Supplementary Materials (Table S3). The model (see Figure 4) was a good fit for the data after freeing the same three parameters as in Study 1a and 1b, $\chi^2(12) = 55.733$ $p = <0.001$, CFI = 0.98, NFI = 0.98, SRMR = 0.02, RMSEA = 0.07. As expected, there was a positive indirect effect of economic condition (low vs. high deprivation) on all anti-immigrant sentiment measures via anomie and belief in conspiracy theories (see Table 7).

TABLE 5 | Study 2 ($n = 760$) Descriptive Statistics and Spearman's Rank Correlations.

Variables	*M (SD)*	1	2	3	4	5	6	7	8	9
1. Actual economic hardship	5.23 (2.08)	—								
2. Perceived economic hardship	2.19 (0.60)	0.39***	—							
3. Anomie	4.68 (1.18)	0.20***	0.27***	—						
4. Conspiracy beliefs	2.47 (1.47)	0.10**	0.12***	0.50***	—					
5. Violent intent	1.11 (0.58)	−0.02	0.08*	0.13**	0.22***	—				
6. Real-life violent justification	1.56 (1.13)	0.03	0.00	0.28***	0.52***	0.30***	—			
7. Non-violent intent	1.53 (1.02)	0.01	0.05	0.35***	0.62***	0.40***	0.54***	—		
8. Policy support	4.48 (1.40)	−0.06	−0.01	−0.43***	−0.74***	−0.17***	−0.52***	−0.63***	—	
9. Affective prejudice	36.11 (24.67)	0.02	−0.04	0.29***	0.62***	0.16*	0.45***	0.57***	−0.72***	—
10. Behavioural prejudice	2.19 (1.47)	0.04	−0.01	0.37***	0.68***	0.21***	0.54***	0.59***	−0.73***	0.69***

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

TABLE 6 | Study 2 ($n = 760$) t-Test (Bootstrapped) Statistics Between Economic Quasi-Experimental Conditions (Low [1] vs. High Deprivation [2]) on Each of The Mediators, Outcomes, and Control Variables, Respectively.

	Economic quasi-experimental condition (Low [1] vs. High deprivation [2])		
	Low deprivation M (SD)	**High deprivation M (SD)**	**Inferential**
Serial mediators:			
Anomie	4.57 (1.20)	4.78 (1.16)	$t(758) = -2.42$, $p = 0.016$, $d = 0.18$, [−0.36740, −0.04739]
Conspiracy beliefs	2.34 (1.55)	2.61 (1.55)	$t(758) = -2.54$, $p = 0.011$, $d = 0.18$, [−0.48053, −0.06967]
Outcomes:			
Violent intent	1.11 (0.56)	1.11 (0.59)	$t(758) = -0.14$, $p = 0.887$, $d = 0.01$, [−0.08833, 0.07206]
Real-Life Violent justification	1.50 (1.06)	1.63 (1.20)	$t(758) = -1.64$, $p = 0.100$, $d = 0.12$, [−0.29715, 0.02129]
Non-violent intent	1.44 (0.93)	1.62 (1.11)	$t(758) = -0.14$, $p = 0.015$, $d = 0.18$, [−0.32666, 0.04069]
Policy support	4.61 (1.35)	4.34 (1.44)	$t(758) = -2.45$, $p = 0.007$, $d = 0.20$, [0.07586, 0.47031]
Prejudice controls:			
Affective prejudice	32.95 (23.3)	39.32 (25.6)	$t(758) = 3.58$, $p < 0.001$, $d = 0.26$, [−9.83133, −3.01531]
Behavioral prejudice	1.98 (1.31)	2.40 (1.59)	$t(758) = 3.93$, $p < 0.001$, $d = 0.28$, [0.21013, 0.61927]

Note: 5,000 bias corrected bootstrapped samples. 95% Confidence Interval.

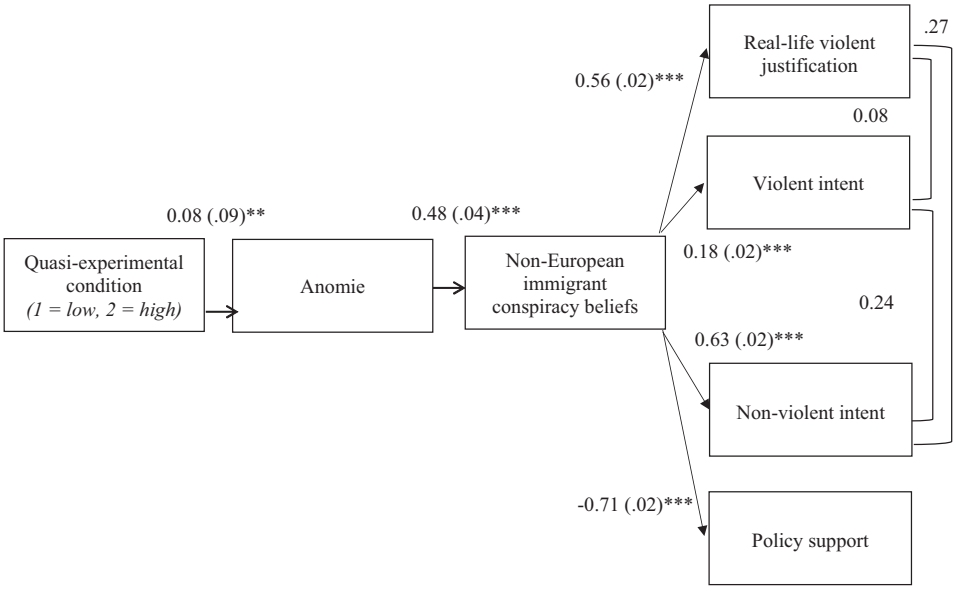

FIGURE 4 | A Path Model Examining a Serial Mediation Test ff Quasi-Experimental Conditions (Low [1] vs High [2] Deprivation postcode area) on Anti-Immigrant Sentiment (Violent Intent, Real-Life Violent Justification, Non-Violent Intention, and Policy Support, Respectively) Through Anomie and Non-European Immigrant Conspiracy Beliefs in Study 2 ($n = 751$), Controlling for Demographics (Age, Gender, Ethnicity, Education and Years Living In postcode area). *Note:* $^{**}p < 0.05$. $^{***}p < 0.001$. Standardized coefficients are reported.

12.1.1 | Alternative Model

Like Studies 1a and 1b, we also tested an alternative model in which we reversed the order of the serial mediators (conspiracy beliefs > anomie). Even when attempting to add additional co-variates (e.g., between policy support and each of the other outcomes), the model demonstrated poor fit, $\chi^2(10) = 545.300$, $p = < 0.001$, CFI = 0.75, NFI = 0.76, SRMR = 0.08, RMSEA = 0.27. Also, the Akaike Information Criterion (AIC) indicated the empirical superiority of the original model

TABLE 7 | Path Analysis Testing the Indirect Effect Of Quasi-Experimental Conditions (Low vs. High Deprivation postcode area) via Anomie and non-European Immigrant Conspiracy Beliefs on Anti-Immigrant Sentiment, Controlling for Demographics (Age, Gender, Ethnicity, Education and Time Living In Region) ($n = 751$, 5000 Bootstrap Samples, 95% Bias Corrected Confidence Intervals).

	Quasi-experimental condition (low vs. high)			
Outcome variables	***β***	***SE***	**95% CI**	***p***
Violent intent	0.01	0.004	0.002, 0.019	0.016
Real-life violent justification	0.05	0.02	0.007, 0.094	0.025
Non-violent intent	0.05	0.02	0.007, 0.096	0.024
Policy support	−0.08	0.03	−0.145, −0.011	0.025

(AIC = 211.733) over the alternative (AIC = 705.300). Together, this analysis provides further support for the theoretical position that the optimal model is from anomie to conspiracy beliefs.

13 | Discussion

Study 2 extended the correlational findings of Studies 1a and 1b using a quasi-experimental design. Moreover, these findings demonstrate that our theoretical model holds even when controlling for various demographic variables, including ethnicity and education, supporting our central hypothesis (H1), although we could not control for prejudice in this analysis. Furthermore, such a quasi-experimental design means that many uncontrolled factors, such as variations in the cost of living between UK regions, could have influenced the outcomes. To address this, Study 3 employed an experimental paradigm to directly manipulate perceptions of high versus low individual economic hardship, allowing for a more controlled examination of our theoretical model.

14 | Study 3a

In Study 3a, we directly manipulated individual economic hardship by adapting an experimental task known as the Bimboola paradigm (Jetten et al. 2015, 2021). In this task, participants imagine they have moved to a new country, either as part of a social group at the top (high wealth) or the bottom (low wealth) of Bimboolean society. Participants then complete a series of hypothetical purchases designed to enhance the manipulation of low and high wealth. We argue that such an adapted manipulation creates differences in perceived individual wealth, status, and opportunities, evoking feelings of economic hardship for those in the low-wealth condition. Therefore, we applied the paradigm specifically to test whether experimentally induced feelings of economic hardship affect anti-immigrant sentiments and behavioural intentions via anomie and immigrant conspiracy beliefs (pre-registration: https://aspredicted.org/9XD_21P[7]).

15 | Method

15.1 | Participants and Design

Eight hundred UK-based participants were recruited from Prolific. Ten were excluded for failing an attention check ("click '5'), leaving 790 participants (390 male, 393 female, three non binary, one gender as queer, two withheld; *Mean age* = 43.01, SD = 14.01). An experimental design was employed. Economic condition was the independent variable (high vs. low wealth), anomie and conspiracy beliefs were serial mediators, and anti-immigrant sentiment was the outcome. As outlined in our pre-registration, we aimed to recruit a minimum sample of 220 participants based on recommendations to detect a $d > 0.40$ with 80% at $\alpha = 0.05$ (Brysbaert 2019). However, after pre-registration, but before data collection, we decided to take a more conservative stance and power the study to detect a $d >$. 20 with 80% at $\alpha = 0.05$, resulting in 788, increased to 800 participants to account for dropouts.

15.2 | Materials and Procedure

Upon providing informed consent, participants were given instructions for the Bimboola task (adapted from Jetten et al. 2015), in which they were asked to imagine moving to a new island country called Bimboola discovered in Western Europe. Participants were shown a graphic of a 7-rung ladder representing different groups in Bimboolean society of varying wealth like other countries in Western Europe: the top rung represented the group with the most money and opportunities, and the bottom represented the group with the least money and fewest opportunities. On the next page, participants were randomly assigned either to Group 6 (high wealth, $n = 397$) or Group 2 (low wealth, $n = 393$).

To enhance the manipulation, participants were given a series of hypothetical purchases (car, house, clothes) to help them start their new life in Bimboola. Their purchasing options were ranked out of 7 stars, and the available options were limited by which group participants were in. Participants in the high wealth condition could purchase options rated 6 stars or fewer, whereas participants in the low wealth condition were restricted to items rated 1 or 2 stars. As a manipulation check, participants were asked four questions about their group (e.g., "*My group in Bimboola is rich*", 1 = strongly disagree, 7 = strongly agree). We averaged responses to these four questions into a single score and found that participants in the high wealth condition agreed more strongly to these questions ($M = 6.12$, SD = 0.93) compared to those in the low condition ($M = 1.61$, SD = 0.89) [$t(788) = 100.76$, $p < 0.001$, $d = 7.17$].

Study 3a used materials identical to those in Study 2, with three changes. Firstly, since we experimentally manipulated feelings of economic hardship, we removed the two economic scales. Secondly, we used an alternative, Bimboola-specific scale for anomie, which we adapted from an existing scale (Teymoori et al. 2016, e.g., "*In Bimboola today, people do not know whom they can trust and rely on*", $\alpha = 0.88$, 1 = strongly disagree, 7 = strongly agree). Finally, the wording for all other questionnaires was slightly changed to be Bimboola-specific (rather than UK, e.g., Conspiracy: "*Non-European immigrants work in secret to destabilise the Bimboola economy*". Each questionnaire was internally reliable ($\alpha_{\text{Conspiracy}} = 0.96$, $\alpha_{\text{Policy}} = 0.90$, $\alpha_{\text{Violent Intention}} = 0.96$, $\alpha_{\text{Non-Violent Intention}} = 0.91$, $\alpha_{\text{Behavioral Prejudice}} = 0.97$). Participants then completed demographic questions before being thanked and fully debriefed.

16 | Results

As some variables showed significant skew, Spearman's rank correlations and *t*-test (bootstrapped) results are shown in Tables 8 and 9, respectively. Anomie and conspiracy beliefs were positively correlated. Both measures were positively correlated with violent and non-violent intentions towards Non-European immigrants and with levels of affective and behavioral prejudice towards Non-European immigrants. Policy support was negatively correlated with each of the measured variables.

Participants in the low wealth condition reported higher anomie than those in the high wealth condition. No significant differences were found between conditions for any other measure, including conspiracy beliefs and prejudice, indicating that we can control for prejudice in the model.

16.1 | Hypothesis Testing: Path Analysis

We followed a similar serial path analysis to that of the previous studies (see Figure 5), with two notable changes. Firstly, the predictor variable was the economic condition (high vs. low wealth). Secondly, as Bimboola is a fictional society, we could not measure the justification of real-world violence. We were also able to control for prejudice in this analysis[8]. This specified model was a good fit for the data after freeing one parameter (violent and non-violent intentions): $\chi^2(9) = 28.252$, $p = 0.001$, CFI = 0.99, NFI = 0.99, SRMR = 0.02, RMSEA = 0.05. In this model, participants in the low (vs. high) wealth condition reported higher levels of anomie. Anomie positively predicted non-European immigrant conspiracy beliefs. non-European immigrant conspiracy beliefs also positively predicted violent intent and non-violent intent toward non-European immigrants. Conspiracy beliefs also negatively predicted policy support to help non-European immigrants. Again, there was a positive indirect effect of economic condition (high wealth vs. low) on all non-European anti-immigrant sentiment measures via anomie and belief in conspiracy theories (see Table 10).

16.1.1 | Alternative Model

We also tested an alternative model in which we reversed the order of the serial mediators (conspiracy beliefs > anomie). This model showed a poorer fit, even after freeing an additional parameter between policy support and non-violent intent, alongside an unacceptable RMSEA (MacCallum et al. 1996), $\chi^2(8) = 174.665$, $p < 0.001$, CFI = 0.93, NFI = 0.93, SRMR = 0.06, RMSEA = 0.16. The Akaike information criterion (AIC) also indicated the empirical superiority of the original model (AIC = 98.252) over the alternative (AIC = 246.665). Such a finding supports the theoretical position that the optimal model is from anomie to conspiracy beliefs.

17 | Study 3b

Study 3a provide further evidence in support of our theoretical model (see Figure 1) and central hypotheses (H1), which posits that hardship fuels anomie associated with non-European conspiracy beliefs and anti-immigrant sentiment, such as violent intent toward non-European immigrants. The pattern of results was also consistent both when controlling for prejudice and without it. In Study 3b, we aimed to replicate the findings of Study 3a, this time in an Irish context. The predictions were the same and were pre-registered as a solely focused serial mediation (https://aspredicted.org/K4L_Z7Q). We expected that low (vs. high) wealth would increase anomie, which would then be linked with non-European immigrant conspiracy beliefs and anti-immigrant sentiment. We also attempted to control for prejudice, as in other studies.

TABLE 8 | Study 3a ($n = 790$) Descriptive Statistics and Spearman's Rank Correlations.

Variables	*M* (SD)	1	2	3	4	5	6	7
1. Anomie	3.98 (0.92)	—	0.17***	0.05*	0.12***	−0.09*	0.14***	0.13***
2. Conspiracy beliefs	2.34 (1.29)		—	0.36***	0.57***	−0.58**	0.48***	0.59***
3. Violent intent	1.35 (0.91)			—	0.63***	−0.29***	0.20***	0.35***
4. Non-violent intent	1.78 (1.25)				—	−0.58***	0.52***	0.61***
5. Policy support	4.86 (1.22)					—	−0.67***	−0.71***
6. Affective prejudice	33.47 (23.18)						—	0.67***
7. Behavioural prejudice	2.18 (1.36)							—

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

TABLE 9 | Study 2 ($n = 790$) Used t-Test (Bootstrapped) Statistics to Compare Economic Experimental Conditions (High [1] vs. Low [2] Wealth) on Each of The Mediators, Outcomes, and Control Variables, Respectively.

	Economic conditions (High [1] vs. Low [2])		
	High wealth M (SD)	**Low wealth M (SD)**	**Inferential**
Serial mediators:			
Anomie	3.83 (0.93)	4.13 (0.89)	$t(788) = -4.68$, $p < 0.001$, $d = 0.33$, [−0.42921, −0.17277]
Conspiracy beliefs	2.39 (1.28)	2.28 (1.30)	$t(788) = 1.21$, $p = 0.228$, $d = 0.09$, [−0.06713, 0.29197]
Outcomes:			
Violent intent	1.34 (0.89)	1.36 (0.92)	$t(788) = -0.34$, $p = 0.737$, $d = 0.02$, [−0.14861, −0.10228]
Non-violent intent	1.70 (1.21)	1.86 (1.28)	$t(788) = -1.80$, $p = 0.073$, $d = 0.13$, [−0.33055, 0.01908]
Policy support	4.80 (1.15)	4.91 (1.28)	$t(788) = -1.243$, $p = 0.214$, $d = 0.09$, [−0.27874, 0.5940]
Prejudice controls:			
Affective prejudice	67.6 (22.2)	65.4 (24.1)	$t(788) = -1.33$, $p = 0.185$, $d = 0.09$, [−5.5000, −1.18341]
Behavioural prejudice	5.85 (1.34)	5.80 (1.38)	$t(788) = 0.61$, $p = 0.545$, $d = 0.04$, [−0.13302, 0.24422]

Note: 5,000 bias corrected bootstrapped samples. 95% Confidence Interval.

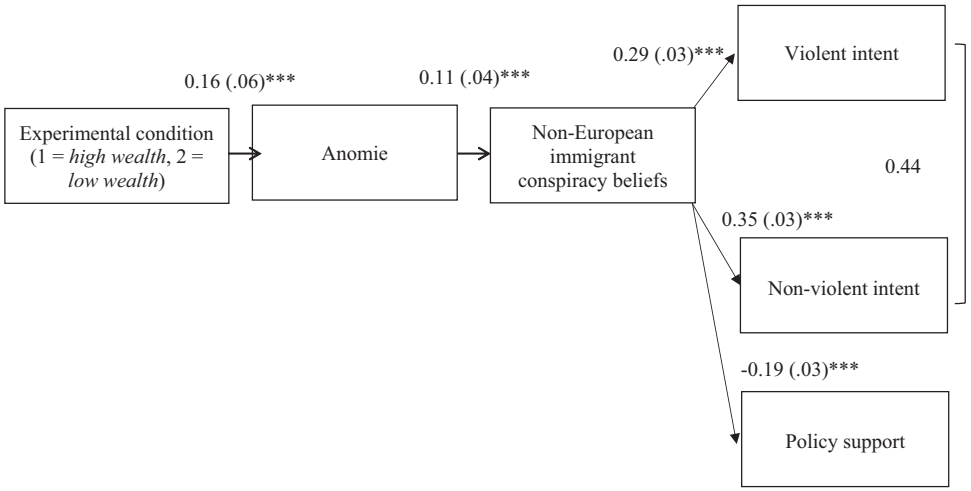

FIGURE 5 | A Path Model Examining a Serial Mediation Test of Experimental Conditions (High [1] vs. Low [2] Wealth) on Anti-Immigrant Sentiment (Violent Intent, Real-Life Violent Justification, non-Violent Intention, and Policy Support, Respectively) Through Anomie and non-European Immigrant Conspiracy Beliefs in Study 3a ($n = 790$), Controlling for Affective and Behavioral Prejudice. *Note:* $^{**}p < 0.05$. $^{***}p < 0.001$. Standardized coefficients are reported.

TABLE 10 | Path Analysis Testing the Indirect Effect of Economic Conditions (High [1] vs. Low [2] Wealth) via Anomie and non-European Immigrant Conspiracy Beliefs on Anti-Immigrant Sentiment, Controlling for Prejudice in Study 3a ($n = 790$) Using 5000 Bootstrap Samples and 95% Bias Corrected Confidence Intervals.

	Economic conditions (High [1] vs. Low [2])			
Outcome variables	***b***	***SE***	**95% CI**	***p***
Violent intent	0.01	0.004	0.004, 0.019	0.001
Non-violent intent	0.02	0.01	0.007, 0.029	0.001
Policy support	−0.01	0.003	−0.016, −0.003	0.001

18 | Method

18.1 | Participants and Materials

Study 3b was identical to Study 3a, except that participants were recruited from the Republic of Ireland. Three hundred and twenty-seven participants were recruited from Prolific. Five were excluded for failing an attention check ("click '5'") and 1 more for extensive missing data (> 50% per measure), leaving 321 participants (106 male, 208 female, three non binary, two other (not specified), 2 withheld) with a *Mean age* = 36.09 (SD = 11.51). As detailed in our pre-registration, we performed a power calculation based on the serial mediation correlations in Study 3, using the Monte Carlo Power Analysis Shiny App (https://schoemanna.shinyapps.io/mc_power_med/), where 384 participants were required for 80% power at $\alpha = 0.05$. However, due to time constraints, we were only able to recruit 321 eligible participants. We ran a sensitivity analysis based on the serial mediation correlations using the same Power Analysis Shiny App, which confirmed that based on a sample of 321, we were powered to 0.97% for the serial mediation. This provides confidence that this study was suitably powered to detect the predicted effects, despite a smaller sample size than intended.

Once again, participants in the high wealth condition ($n = 162$) gave higher responses to the manipulation check questions ($M = 6.23$, SD = 0.78) than did participants in the low wealth condition ($n = 159$, $M = 1.55$, SD = 0.54) [$t(319) = 62.026$, $p < 0.001$], validating the manipulation. Moreover, all questionnaires were internally reliable ($\alpha_{Conspiracy} = 0.96$, $\alpha_{Policy} = 0.90$, $\alpha_{Anomie} = 0.87$, $\alpha_{Violent\ Intention} = 0.94$, $\alpha_{Non\text{-}Violent\ Intention} = 0.91$, $\alpha_{Behavioral\ Prejudice} = 0.96$).

19 | Results

As some of the data were significantly skewed, Spearman's rank correlations and *t*-test (bootstrapped) results can be found in Tables 11 and 12, respectively. Again, anomie and conspiracy beliefs were positively correlated. Moreover, both were again positively correlated with violent and non-violent behavioural intentions towards non-European immigrants and with levels of affective and behavioural prejudice towards non-European immigrants. Policy support was negatively correlated with all variables except for anomie.

Participants in the low (vs. high) wealth condition reported higher anomie. No significant differences were found for any other measure except for policy support (albeit marginal) and prejudice. Affective prejudice significantly differed between groups, and behavioural prejudice was marginally significant. This renders the measure of prejudice an unsuitable control variable in this analysis.

19.1 | Hypothesis Testing: Path Analysis

We sought to replicate the serial mediation model as described in Study 3a, although we were unable to control for prejudice. The model was a reasonably good fit for the data after freeing two parameters (non-violent intentions with violent intentions and policy support), $\chi^2(8) = 24.116$, p =0.002, CFI = 0.97, NFI = 0.96, SRMR = 0.04, RMSEA = 0.08. The patterns of results were as expected (see Figure 6), where there was a positive indirect effect of economic condition (high vs. low wealth) on all anti-immigrant sentiment measures via anomie and belief in conspiracy theories (see Table 13).

19.1.1 | Alternative Model

We also tested an alternative model in which we reversed the order of the serial mediators (conspiracy beliefs > anomie). This model showed a poor model fit even after attempting to improve model fit, $\chi^2(8) = 305.937$, $p < 0.001$, CFI = 0.52, NFI = 0.52, SRMR = 0.23, RMSEA = 0.34. The Akaike Information Criterion (AIC) also indicated the empirical superiority of the original model (AIC = 62.116) over the alternative (AIC = 343.937). Consistent with previous studies, the analysis provides evidence that the ordering of anomie to conspiracy beliefs is the optimal pattern.

20 | Study 3a and 3b Discussion

The findings of Studies 3a and 3b provide further evidence that economic conditions can foster anomie, which in turn is linked with both conspiracy beliefs and anti-immigrant sentiment, supporting our central hypothesis (H1). While effect sizes were smaller in this virtual world context, the results are nonetheless consistent. Importantly, the effects are not limited to a UK sample (Study 3a) but were replicated in an Irish sample

TABLE 11 | Study 3b ($n = 321$) Descriptive Statistics and Spearman's Rank Correlations.

Variables	Study M (SD)	1	2	3	4	5	6	7
1. Anomie	4.14 (0.92)	—						
2. Conspiracy beliefs	2.23 (1.28)	0.25***	—					
3. Violent intent	1.27 (0.78)	0.15**	0.45***	—				
4. Non-violent intent	1.58 (1.13)	0.15**	0.56***	0.66***	—			
5. Policy support	5.28 (1.17)	−0.03	−0.57***	−0.42***	−0.55***	—		
6. Affective prejudice	27.12 (20.83)	−0.17***	−0.48***	−0.30***	−0.48***	−0.67***	—	
7. Behavioural prejudice	1.87 (1.26)	−0.17***	−0.55***	−0.49***	−0.57***	−0.70***	0.62***	—

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

TABLE 12 | Study 3b ($n = 321$) *t*-Test (Bootstrapped) Statistics Between Economic Conditions (High [1] vs. Low [2] Wealth) on Each of the Mediators, Outcomes, and Control Variables, Respectively.

	Economic conditions (High [1] vs. Low [2])		
	High wealth M (SD)	**Low wealth M (SD)**	**Inferential**
Serial mediators:			
Anomie	3.92 (0.93)	4.36 (0.85)	$t(319) = -4.430$, $p < 0.001$, $d = 0.50$, [−0.63843, −024458]
Conspiracy beliefs	2.18 (1.22)	2.29 (1.34)	$t(319) = -0.810$, $p = 0.418$, $d = 0.09$, [−0.39468, 0.15655]
Outcomes:			
Violent intent	1.30 (0.79)	1.25 (0.78)	$t(319) = 0.571$, $p = 0.568$, $d = 0.06$, [−0.12367, 0.22269]
Non-violent intent	1.64 (1.22)	1.53 (1.05)	$t(319) = 0.861$, $p = 0.390$, $d = 0.10$, [−0.14406, 0.36291]
Policy support	5.40 (1.15)	5.15 (1.19)	$t(319) = 1.901$, $p = 0.058$, $d = 0.21$ [−0.00090, 0.50395]
Prejudice controls:			
Affective prejudice	23.80 (20.11)	30.50 (21.09)	$t(319) = -2.914$, $p = 0.004$, $d = 0.33$, [−11.16984, −2.07781]
Behavioural prejudice	1.75 (1.21)	1.98 (1.31)	$t(319) = -1.672$, $p = 0.095$, $d = 0.19$, [−0.51361, 0.03918]

Note: 5,000 bias corrected bootstrapped samples. 95% confidence interval.

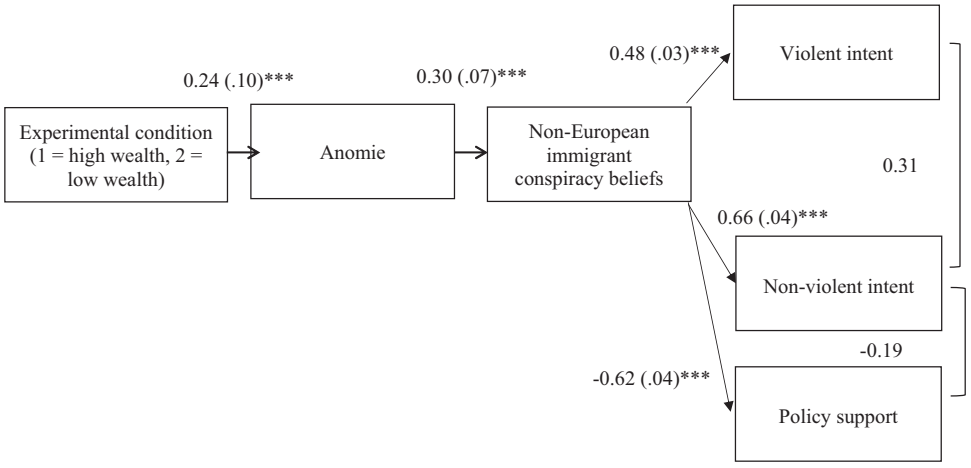

FIGURE 6 | A Path Model Examining a Serial Mediation Test of Experimental Conditions (High vs. Low Wealth) on Anti-Immigrant Sentiment (Violent Intent, Real-Life Violent Justification, Non-Violent Intention, and Policy Support, Respectively) Through Anomie and Non-European Immigrant Conspiracy Beliefs in Study S2 ($n = 321$). *Note:* $^{**}p < 0.05$. $^{***}p < 0.001$. Standardized coefficients are reported.

TABLE 13 | Path Analysis Testing the Indirect Effect of Economic Condition (High vs. Low Wealth) via Anomie and non-European Immigrant Conspiracy Beliefs on Anti-Immigrant Sentiment, Controlling for Prejudice in Study S2 ($n = 321$) Using 5000 Bootstrap Samples and 95% Bias Corrected Confidence Intervals.

	Economic conditions (High [1] vs. Low [2])			
Outcome variables	***B***	***SE***	**95% CI**	***p***
Violent intent	0.05	0.02	0.024, 0.109	0.001
Non-violent intent	0.10	0.03	0.053, 0.191	0.001
Policy support	−0.11	0.03	−0.176, −0.053	0.001

(Study 3b), suggesting cross-national generalisability. However, while the effects were replicated both with and without controlling for prejudice in Study 1a, we were unable to control for prejudice in Study 3b, as it was itself influenced by our manipulation. Moreover, the studies presented thus far have not yet manipulated conspiracy beliefs directly—an important next step for testing our theoretical model. We addressed this in Study 4.

21 | Study 4

Having demonstrated the effect of experimentally-induced economic hardship on anomie and the downstream effect on conspiracy beliefs and anti-immigrant sentiment, Study 4 aimed to further test our theoretical model (see Figure 1) by introducing an additional experimental manipulation:

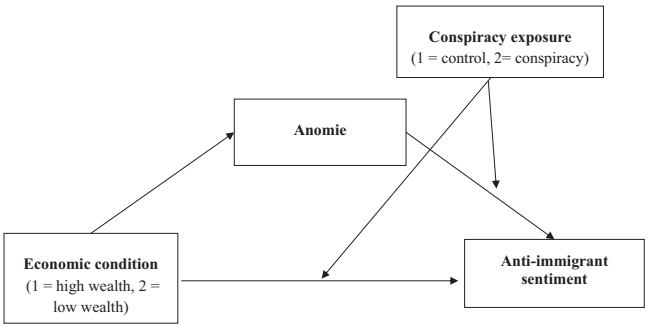

FIGURE 7 | A Theoretical Model to Represent the Predicted Moderated Mediations (Model 15), Including Economic Conditions (High vs. Low Wealth, Predictor), Anomie (Mediator), and Anti-Immigrant Sentiment (Outcome), Conditioned by Conspiracy Exposure (Control vs. Conspiracy, Moderator) in Study 4.

exposure to conspiracy theories. To achieve this aim, we exposed participants to conspiracy content (vs. control) about non-European immigrants, a narrative likely to resonate with those experiencing economic hardship and looking for ways to make sense of societal decline. We predicted that, as in Studies 3a and b, economic hardship would increase feelings of anomie, which in turn would increase anti-immigrant sentiments. Moreover, we further predicted that exposure to conspiracy theories (vs. control) would moderate these relationships, whereby under low (vs. high) wealth conditions, conspiracy exposure (vs. control) would increase the positive effect of societal anomie on anti-immigrant sentiments. Such a pre-registered hypothesis (https://aspredicted.org/XL4_4L6)can be examined in a test of moderated mediation. Figure 7 provides a visual representation of our predictions.

22 | Method

22.1 | Participants and Design

Eight hundred and one UK-based participants completed the study via Prolific. Thirteen participants were excluded for failing an attention check, leaving 788 participants (386 male, 390 female, five nonbinary, 1 gender-fluid, 1 no gender, three other not specified, two withheld; *Mean age* = 43.19. SD = 14.19). Economic condition (high [$n = 394$] vs low [$n = 394$] wealth) and conspiracy exposure (exposure [$n = 390$] vs control [$n = 398$]) were manipulated experimentally. In our proposed moderated mediation model, economic condition served as the independent variable (high vs. low wealth), and conspiracy exposure acted as the moderator. Anomie was a proposed mediator, and anti-immigrant sentiment was the outcome. As pre-registered, we recruited 800 participants for us to detect a difference corresponding to Cohen's $d > 0.02$ (80% power with $\alpha = 0.05$) for two experimental groups (i.e., economic exposure, our IV). Importantly, such a sample size is also above the sample size (550) to detect a small moderated effect (0.02) at 80% power using the linear multiple regression option in GPower (i.e., to detect the conspiracy exposure x anomie interaction).

22.2 | Materials and Procedure

As in Study 3, participants first completed the Bimboola task. Again, the manipulation in the Bimboola paradigm was successful, with participants in the high wealth condition ($n = 394$) giving higher scores on the check questions ($M = 5.99$, SD = 0.81) compared to participants in the low wealth condition ($n = 394$, $M = 1.69$, SD = 0.63) [$t(786) = 83.61$, $p < 0.001$, $d = 5.96$]. Participants then completed a measure of anomie ($\alpha = 0.80$), as in Study 3.

After anomie, participants were then randomly assigned to either the conspiracy exposure condition or control (adapted from Jolley et al. 2020a). Participants in the conspiracy condition were given a short news article vignette. This vignette favourably described conspiracy theories about the activities of Non-European immigrants in Bimboola (e.g., "*Such Non-European immigrants are ultimately secretly working to destabilise the Bimboola economy*"). The term "conspiracy theory" was not explicitly mentioned, nor any variation thereof (e.g., "conspiring"). Participants in the control group were not given an article to read; they proceeded straight to the questionnaires, as in previous research (e.g., Jolley et al. 2020a).

Participants then completed the same anti-immigrant sentiment questions as in Study 3, which were all internally reliable ($\alpha_{\text{Policy}} = 0.92$, $\alpha_{\text{Violent Intention}} = 0.96$, $\alpha_{\text{Non-Violent Intention}} = 0.92$, $\alpha_{\text{Behavioural Prejudice}} = 0.97$). Next, as a manipulation check, participants completed the conspiracy belief questions as used in Studies 1–3 ($\alpha = 0.97$). Finally, participants answered demographic questions before being thanked and fully debriefed.

23 | Results and Discussion

As some variables showed significant skew, Spearman's rank correlations and *t*-test (bootstrapped) results are shown in Tables 14 and 15, respectively. Anomie and conspiracy belief were uncorrelated, unlike Studies 1–3, though this may be because of the conspiracy exposure manipulation on conspiracy belief. Anomie was positively correlated with violent and non-violent behavioural intentions but not with any other measures of anti-immigrant sentiment. Conspiracy belief was positively correlated with both measures of behavioural intentions, negatively correlated with support for policies to help non-European immigrants, and positively correlated with both measures of prejudice, indicating an association with higher levels of prejudice.

Compared to those in the high wealth condition (see Table 15), participants in the low wealth condition reported significantly higher levels of anomie. We also found marginally significant increases in violent intent and non-violent intent, and marginally lower policy support. Interestingly, there were no significant differences in conspiracy beliefs. However, we also found that prejudice differed between groups, thereby limiting our ability to control for general negativity in this model.

Next, the manipulation of conspiracy exposure was successful; participants in the conspiracy condition reported higher belief in conspiracy theories than those in control (see Table 15).

TABLE 14 | Study 4 Descriptive Statistics and Spearman's Rank Correlations ($n = 788$).

Variables	*M (SD)*	1	2	3	4	5	6	7
1. Anomie	4.43 (0.79)	—						
2. non-European immigrant conspiracy beliefs	2.85 (1.64)	0.02	—					
3. Violent intent	1.44 (1.09)	0.11*	0.35***	—				
4. Non-violent intent	2.15 (1.55)	0.04*	0.61***	0.61***	—			
5. Policy support	4.64 (1.37)	0.03	−0.68***	−0.28***	−0.60***	—		
6. Affective prejudice	41.05 (25.50)	0.001	0.65***	0.27***	0.58***	−0.73***	—	
7. Behavioural prejudice	2.72 (1.68)	−0.01	0.68***	0.34***	0.61***	−0.76***	0.78***	—

**$p < 0.01$; ***$p < 0.001$; *$p < 0.05$.

Furthermore, participants in the conspiracy exposure condition (vs. the control) reported more negative sentiment toward non-European immigrants in all measures except for violent behavioural intentions, which was marginal ($p = 0.06$). We also found differences in prejudice toward non-European immigrants, our control variable, again limiting the ability to control for general negativity. Anomie was omitted as this measure was completed before the conspiracy manipulation.

23.1 | Hypothesis Testing: Moderated Mediation

Next, we explored whether conspiracy exposure (vs. control) moderated the link between a) economic conditions (high vs. low wealth) and anti-immigrant sentiment and b) anomie and anti-immigrant sentiment (see Figure 7). Since PROCESS is robust to non-parametric data and outliers (Demming et al. 2017), we used PROCESS Model 15 with 5,000 bootstrapped samples and 95% bias-corrected confidence intervals (Hayes 2013). We reran the model for each outcome variable (violent intent, non-violent intent, and policy support), as shown in Table 16. As our experimental conditions impacted prejudice, we were unable to control for general negativity in our models.

23.1.1 | Violent Intent

First, we found that there was an interaction between economic condition (high vs. low wealth) and conspiracy (control vs. exposure) in violent intention towards immigrants, $b = 0.50$, $p = 0.002$, 95% CI [0.1918 – 0.8053], $F(1, 782) = 10.18$, $p = 0.002$. A simple slope test revealed that when exposed to conspiracy theories, participants in the low (vs. high) wealth condition reported more violent intentions ($b = 0.35$, $p = 0.002$, 95% CI [0.1328 – 0.5722], see Figure 8). As expected, no difference was found between economic conditions in the conspiracy control condition ($b = -0.15$, $p = 0.181$, 95% CI [−0.3602 – 0.0680]).

We then examined whether conspiracy (control vs. exposure) moderated the link between anomie and violent intention. The interaction was nonsignificant ($b = -0.02$, $p = 0.819$, 95% CI [−0.2186– 0.1729], $F(1, 782) = 0.0525$, $p = 0.819$), meaning that there was also no predicted moderated mediation (−0.01, 95% CI [−0.0601 – 0.0464]).

23.1.2 | Non-Violent Intent

We also found a marginal interaction between economic condition (high vs. low wealth) and conspiracy exposure (control vs. exposure) in non-violent intentions towards immigrants, $b = 0.40$, $p = 0.065$, 95% CI [−0.0262 – 0.8326], $F(1, 782) = 3.3977$, $p = 0.065$. A simple slope test revealed that when exposed to conspiracy theories, participants in the low (vs. high) wealth condition reported more non-violent intentions ($b = 0.37$, $p = 0.012$, 95% CI [0.0579 – 0.6729], see Figure 9). As expected, no difference was found between economic conditions in the conspiracy control condition ($b = -0.04$, $p = 0.804$, 95% CI [−0.3375 – 0.2619]).

Again, we found that conspiracy (control vs. exposure) did not moderate the link between anomie and violent intention, $b = 0.07$, $p = 0.596$, 95% CI [−0.2000 – 0.3481], $F(1, 782) = 0.2813$, $p = 0.596$. This also meant that there was no predicted moderated mediation (0.02, 95% CI [−0.0587 – 0.1102]).

23.1.3 | Policy Support

Finally, we re-ran the model with policy support and found no moderation on any path ($p > 0.05$, see Table 15), which does not support our predictions.

24 | Discussion

In summary, we found evidence of moderation between economic conditions (high vs. low wealth) and conspiracy theories (control vs. exposure) regarding violent intent, and also, marginally non-violent intentions. However, we predicted that conspiracy exposure (vs. control) would also moderate the anomie pathway and also moderate models that predict policy support. Our data did not support these predictions, and therefore only partly supports our central hypothesis (H1).

Therefore, while these data provide experimental evidence linking economic conditions to conspiracy exposure and violence, we have consistently theorised throughout our studies that anomie plays a critical role in the relationship between economic hardship and conspiracy beliefs. However, anomie

TABLE 15 | *t*-Tests (Bootstrapped) of Statistics and Descriptives Between Economic Conditions (High [1] vs. Low [2] Wealth) and Conspiracy Conditions (Control [1] vs. Exposure [2]) on Each of the Mediators, Outcomes, and Control Variables in Study 4 ($n = 788$).

	Economic conditions (High [1] vs. Low [2] wealth)			Conspiracy conditions (Control [1] vs. Exposure [2])		
	High wealth M (SD)	Low wealth M (SD)	Inferential	Control M (SD)	Exposure M (SD)	Inferential
Serial mediators:						
Anomie	4.30 (0.84)	4.56 (0.72)	$t(786) = -4.78$, $p < 0.001$, $d = 0.34$, [− 0.37180, −0.1554]	—	—	—
Non-European immigrant conspiracy beliefs	2.84 (1.63)	2.87 (1.65)	$t(786) = -0.31$, $p = 0.756$, $d = 0.02$, [−0.26856, 0.19825]	2.30 (1.44)	3.42 (1.64)	$t(786) = -10.19$, $p < 0.001$, $d = 0.73$, [−1.34735, −0.88860]
Outcomes:						
Violent intent	1.38 (0.96)	1.51 (1.21)	$t(786) = -1.68$, $p = 0.093$, $d = 0.12$, [−0.27752, 0.02015]	1.37 (1.00)	1.52 (1.17)	$t(786) = -1.86$, $p = 0.060$, $d = 0.13$, [−0.29705, 0.1022]
Non-violent intent	2.04 (1.44)	2.25 (1.65)	$t(786) = -1.96$, $p = 0.051$, $d = 0.14$, [−0.44070, 0.00279]	1.85 (1.40)	2.44 (1.64)	$t(786) = -5.45$, $p < 0.001$, $d = 0.39$, [−0.80809, −0.36686]
Policy support	4.73 (1.32)	4.56 (1.41)	$t(786) = 1.72$, $p = 0.090$, $d = 0.12$, [−0.01887, 0.36113]	4.85 (1.29)	4.43 (1.41)	$t(786) = 4.40$, $p < 0.001$, $d = 0.31$, [−0.23100, 0.61800]
Prejudice controls:						
Affective prejudice	38.34 (25.5)	43.78 (25.2)	$t(786) = -3.00$, $p = 0.002$, $d = 0.21$. [−9.04316, −1.74090]	34.06 (24.2)	48.18 (24.8)	$t(786) = -8.08$, $p < 0.001$, $d = 0.58$, [−17.55887, −10.77597]
Behavioural prejudice	2.61 (1.65)	2.83 (1.71)	$t(786) = -1.76$, $p = 0.080$, $d = 0.13$, [−0.44565, 0.02882]	2.22 (1.40)	3.24 (1.79)	$t(786) = -8.92$, $p < 0.001$, $d = 0.63$, [−1.24727, −0.78723]

Note: 5,000 bias corrected bootstrapped samples. 95% Confidence Interval.

TABLE 16 | Moderated Mediation Model of Economic Condition (High vs. Low Wealth, Predictor, IV), Anomie (Mediator, MV) and Conspiracy Exposure (Control vs. Exposure, Moderator, Moderator), Predicting Violent Intent, Non-Violent Violence, and Policy Support, respectively (DVs), in Model 15 of PROCESS Macro (Study 4, $n = 788$).

	Anomie (MV)		Violent intent (DV 1)		Non-violent intent (DV 2)		Policy support (DV 3)	
Variable	**Coeff. (SE)**	**95% CI**	**Coeff. (SE)**	**95% CI**	**Coeff. (SE)**	**95% CI**	**Coeff. (SE)**	**95% CI**
Economic (IV)	**0.26 (0.06)*** **	**0.1561, 0.3734**	**−0.64 (0.25)***	**−1.1259, −0.1634**	−0.44 (0.34)	−1.1147, 0.2326	−0.06 (0.31)	−0.6603, 0.5482
Anomie (MV)	—	—	0.14 (0.15)	−0.1603, 0.4389	0.05 (0.21)	−0.3684, 0.4704	0.09 (0.19)	−0.2902 – 0.4622
Conspiracy (Mod)	—	—	**−0.60* (0.25)**	**−1.0870, −0.1180**	−0.01 (0.35)	−0.6906, 0.6658	−0.30 (0.31)	−0.9109, 0.3057
Economic x Conspiracy	—	—	**0.50 (0.16)***	**0.1918, 0.8053**	***0.40 (0.22)^***	***−0.0262, 0.8326***	−0.07 (0.20)	−0.4637, 0.3066
Anomie x Conspiracy	—	—	−0.02 (0.10)	−0.2186, 0.1729	0.07 (0.14)	−0.02000, 0.3481	−0.03 (0.13)	−0.2709, 0.2206

Note: Unstandardized coefficients are reported. Bold typeface indicates a significant effect. *Bold italic* indicates a marginal effect.
*$p < 0.05$; ***$p < .001$.
^$p < 0.10$.

FIGURE 8 | Simple Slope Moderator Effects of Conspiracy Exposure (vs. Control) on Violent Intent Towards Immigrants by Economic Conditions (High vs. Low Wealth) in Study 4 ($n = 788$).

FIGURE 9 | Simple Slope Moderator Effects of Conspiracy Exposure (vs. Control) on Non-Violent Intent Towards Immigrants by Economic Conditions (High vs. Low Wealth) in Study 4 ($n = 788$).

did not appear to play a significant role in this experimental study. Since we did not manipulate anomie *directly*, it is possible that only under high levels of anomie (compared to low) would the conspiracy exposure condition interact meaningfully. Additionally, this experimental work suggests that conspiracy exposure may have a greater impact on behavioural intentions rather than policy support, which was unexpected. Finally, as in Study 3b, we found that hardships (high vs. low wealth) increased prejudice, rendering it an unsuitable control variable and preventing us from exploring the unique contributions of the variables. These points are discussed in more detail in the General Discussion.

25 | General Discussion

Across six studies employing different research designs, we found consistent relationships between economic hardship, anomie, non-European immigrant conspiracy beliefs, and anti-immigrant sentiment, supporting our central hypothesis tested in each study (H1). In Study 1a with UK participants,

perceptions of and self-reported actual economic hardship predicted anti-immigrant sentiment (e.g., violence toward non-European immigrants) through anomie and non-European immigrant conspiracy theory beliefs. We replicated this effect in Study 1b with Irish participants. In Study 2, we found that participants recruited from UK areas of high income deprivation (vs. low income deprivation areas) reported higher anomie, which was associated with non-European immigrant conspiracy beliefs and anti-immigrant sentiment. Building on this study, we manipulated the experiences of economic hardship among UK individuals in Study 3a through a virtual society. Results demonstrated that low (vs. high) perceived wealth increased anomie, which was associated with non-European immigrant conspiracy beliefs and anti-immigrant sentiment. In Study 3b, we replicated this effect in a sample of Irish participants. Finally, in Study 4, UK participants assigned to a low wealth condition (vs. high wealth) and exposed to conspiracy theories about non-European immigrants (vs. a control) reported a greater intention to engage in violent acts against non-European immigrants. We also found a marginal increase in reported non-violent intentions. Together, these studies demonstrated that economic conditions were consistently associated with anomie, conspiracy beliefs, and anti-immigrant sentiment.

Our findings provide valuable insights into the psychological mechanisms that bridge economic influences with anti-immigrant sentiments and behaviours, highlighting the important mediating roles of both societal anomie and conspiracy belief. We demonstrated robust support for the indirect link between economic hardship and these factors across three different measures of hardship: self-report, quasi-experimental, and experimental. Notably, the correlational and virtual society findings were also replicated in a sample of Irish participants (Studies 1b and 3b), speaking to the generalisability across nations. Combined, our studies add nuance by suggesting that economic hardship may be a distal factor, indirectly promoting hostile sentiments and behaviours by fostering feelings of anomie and belief in conspiracy narratives.

It is important to highlight that anomie was the only variable consistently predicted by all measures of economic hardship across all studies. While conspiracy belief was linked to hardship in Studies 1 and 2 (i.e., self-reported and postcode-based deprivation), this relationship did not hold in Studies 3 and 4 (i.e., experimentally induced hardship). Furthermore, correlations between economic hardship and anti-immigrant sentiment were inconsistent across studies. These findings suggest that, in the context of anti-immigrant sentiments, anomie serves as a pivotal gateway variable influencing behavioural outcomes. Conspiracy beliefs, in turn, may act as an accelerant, amplifying the pathway from societal anomie to negative behavioural consequences. Our findings align with recent theoretical frameworks (e.g., Hayes 2009; Memon et al. 2020), which argue that the absence of a direct effect does not preclude the presence of significant indirect effects. This is because an indirect effect can still be significant even if one of its component paths does not reach statistical significance (Hayes 2017; see also MacKinnon et al. 2002). By identifying key intervening variables, such as anomie and conspiracy beliefs, our research contributes to a clearer understanding of the pathways connecting economic hardship to anti-immigrant sentiment.

There were some inconsistencies across studies. We aimed to control for general negativity (prejudice) toward non-European immigrants, allowing us to assess whether conspiracy beliefs predict violent behaviours beyond mere negativity. In some studies, however, economic hardship also predicted prejudice, making it an unsuitable control variable. Specifically, prejudice was not correlated with economic hardship (perceived or actual) in Studies 1a and 1b, nor was it experimentally induced in Study 3a. Yet, in Studies 2, 3b, and 4, hardship (high vs. low wealth) did increase prejudice. Nonetheless, when we re-ran the models without prejudice in Studies 1a, 1b, and 3a (see Supplementary Materials), the indirect effects were replicated, providing reassurance that the effects hold regardless of whether prejudice is present or not. For these studies, we present both sets of analyses, enabling comparisons across studies while also examining the unique role of conspiracy beliefs, controlling for prejudice where possible. Moreover, in Study 4, we found inconsistent evidence for policy support. This was unexpected and could suggest that conspiracy *exposure* is more likely to influence behaviours directed explicitly at the target of the conspiracy, particularly when there is an immediate reaction (i.e., direct violence), as opposed to indirect (e.g., supporting public policies). These data suggest that there is more to explore in our understanding of how exposure to conspiracy theories affects behavioural outcomes.

Nonetheless, our data have implications for the real-world problem of hostility towards immigrants. Policymakers could focus efforts to reduce such hostilities on any of the three levels in our model. Firstly, solutions could operate directly at the output level, addressing anti-immigrant attitudes and behaviours themselves. For instance, one might encourage intergroup contact, as cross-group friendships are associated with reduced anti-immigrant sentiment (van der Linden et al. 2017), and positive intergroup contact also reduces conspiracy beliefs (Jolley et al. 2023). Arguably, however, strategies at the output level address the symptoms more than the cause.

The second option is the informational level, addressing people's access to conspiracy theories. Our data, especially Study 4, provide further evidence of the impact of exposure to conspiracist narratives on attitudinal and behavioural outcomes, thereby bridging the gap between economic hardship and these outcomes. Moreover, because people who endorse conspiracy theories tend to form judgments quickly after only small samples of data (e.g., Hattersley et al. 2022; Moulding et al. 2016) and minimal reflection (e.g., Hattersley et al. 2022; Swami et al. 2014), there is a need to reach people quickly before conspiracist narratives take hold. One possible strategy is to expose people to more positive sources of information. Indeed, people exposed to positive news stories about immigrants report fewer hostile sentiments towards immigrants than those exposed to negative stories (Jacobs and van der Linden 2018).

Finally, solutions could address the economic level by tackling economic hardship directly, which in turn should lower societal anomie and reduce the proliferation power and appeal of conspiracist narratives, including anti-immigrant ones. Addressing the effect of hardship is not just about improving overall economic performance but also about ensuring that the benefits of a strong economy are felt across social classes. Our data show

that economic hardship influences people's sentiments towards immigration (via anomie and conspiracy belief) across multiple operationalisations of hardship. Specifically, self-reporting of hardship (Study 1) and increased salience of (low) wealth (Studies 3 and 4) impacted anti-immigrant sentiment through the same psychological mechanisms as actual income deprivation (e.g., postcode-level; Study 2). This is why populist politicians often try to canvass votes by portraying current economic performance as bad, even when it is objectively good (e.g., Donald Trump's 2024 presidential campaign; Sonnenfeld et al. 2024). Improving economic fairness may reduce economic uncertainty, which could, in turn, diminish societal anomie and, consequently, decrease the appeal of conspiracist narratives, including those targeting immigrants.

In terms of limitations, we did not control for the actual level of immigration in a participant's area. This is especially relevant to Study 2, in which we operationalized economic hardship using the UK postcode area. It is possible that immigration levels were higher in the postcode areas included in the high-deprivation condition compared to those in the low-deprivation condition. Conspiracist narratives about immigration could be more salient in postcode areas with higher immigrant populations than in areas with fewer immigrants. Future research could control for this possibility.

Another limitation is that our manipulations of wealth were considered in terms of high versus low. One suggestion for future research is to focus on middle-class populations. While the most deprived rarely benefit substantially from economic growth and the least deprived rarely feel the impact of economic decline, the economic position of people in the middle may be precarious and more sensitive to a society's overall economic performance. For such people, the prospect of both upward and downward mobility may seem realistic, and their psychology may, therefore, be the most malleable in response to economic influences. Additionally, while we observed consistent (indirect) effects of anomie across all studies, these findings relied on self-report measures. A more rigorous test of our model could manipulate anomie directly - perhaps by inducing a sense of social disconnection or using situational cues to elicit feelings of normlessness. An experimental design that simultaneously manipulates economic hardship and anomie would provide a more direct test of anomie's role. Despite these limitations, our findings robustly support our theoretical model across various designs, even if effect sizes were conventionally small. Nonetheless, we establish meaningful relationships between economic hardship, anomie, conspiracy beliefs, and anti-immigrant sentiment, which hold valuable insights for policymakers and other stakeholders.

Our work also brings to the fore new research questions. For example, the present study focused exclusively on anti-immigrant conspiracy theories, which are “downward” in the sense that they cast marginalized groups as perpetrators, not victims (Nera et al. 2021). An intriguing possibility, however, is that “upward” conspiracy theories—which focus on powerful groups—could play a similar role in increasing violent reactions. Such conspiracy theories often contain an economic component, with motives being described in terms of increasing wealth (e.g., climate change is a financially motivated hoax by liberal politicians) or maintaining socioeconomic status (e.g., bankers and politicians deliberately caused the 2008 financial crisis to keep the people poor). Such beliefs may mediate the relationship between anomie and endorsement of violent behaviours towards members of powerful groups, such as bankers or politicians (e.g., the 2022 murder of Davie Amess, the Conservative MP for Southend West). Such a possibility could be explored in future research.

26 | Conclusion

Our research across six studies demonstrates a consistent relationship between economic hardship, anomie, conspiracy beliefs, and anti-immigrant sentiment. Economic hardship significantly fosters societal anomie, which is associated with belief in non-European immigrant conspiracy theories and anti-immigrant intentions, including violent intent. Our findings suggest that interventions to reduce anti-immigrant sentiment should target not only the symptoms, such as anti-immigrant attitudes and behaviours, but also the underlying causes, such as economic hardship and societal anomie. By targeting both the symptoms and the root causes, we can develop more effective strategies to reduce anti-immigrant sentiment and promote social cohesion.

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Ethics Statement

This manuscript adheres to ethical guidelines specified in the American Psychological Association's (APA) Ethical Principles of Psychologists and Code of Conduct, as well as the authors' national ethics guidelines.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Pre-registration documents (where applicable), data, and materials can be accessed via https://osf.io/pngc6.

Endnotes

[1] In each pre-registration document, we initially referred to our key construct as ‘economic inequality’. However, a more accurate description is ‘economic hardship’, which we now report in the manuscript, as of our measures do not ask participants to compare their wealth to others but rather assess (or manipulate) their economic conditions.

[2] We also included a measure of intergroup contact with non-European immigrants (1-item positive and 1-item negative) and a 1-item general voting intention as part of a wider project. These variables have not been reported as part of this manuscript.

[3] We also reran the path model, omitting prejudice as a control variable. Freeing additional parameters between policy support and both non-violent intent, and real-life violence, resulted in a relatively good fit model except for RMSA which was considered mediocre

(MacCallum et al. 1996), $\chi^2(15) = 95.819$, $p = < 0.001$, CFI = 0.95, NFI = 0.94, SRMR = 0.04, RMSEA = 0.10. All indirect effects remained significant (see supplementary materials Table S1 and Figure S1), consistent with the model reported in the main text.

[4]As in Study 1a, we also included a measure of intergroup contact (1-item positive and 1-item negative) and 1-item general voting intentions. These are not reported as part of this manuscript.

[5]Again, we re-ran the path model, omitting prejudice as a control variable. Freeing an additional parameter between policy help and non-violent intent resulted in a relatively good fit model, $\chi^2(16) = 64.056$, $p = < 0.001$, CFI = 0.96, NFI = 0.95, SRMR = 0.04, RMSEA = 0.08. All indirect effects remained significant for perceived hardship and marginally significant for actual hardship (see Supplementary Materials Table S2 and Figure S2), a pattern consistent with the model reported in the main text.

[6]We initially theorised that income would be included as a control variable in the analyses. However, we ultimately used this variable as a manipulation check for the quasi-experimental manipulation and reported it as such in this study.

[7]Although we did pre-register a serial mediation, we also pre-registered a simpler mediation model with only conspiracy beliefs as a mediator in this study. However, throughout the manuscript, we have focused on serial mediation (which we pre-registered for in other studies, e.g., Study 2). To streamline the paper, we have also solely focused on serial mediation in this study.

[8]We also re-ran the path model, omitting prejudice as a control variable. Freeing an additional parameter between policy help and non-violent intent resulted in a relatively good fit model, $\chi^2(8) = 21.103$, $p = 0.007$, CFI = 0.99, NFI = 0.98, SRMR = 0.03, RMSEA = 0.05. All indirect effects remained significant (see Supplementary Materials Table S4 and Figure S3), consistent with the model reported in the main text.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.