

ARTICLE

A cognitive balance approach to understanding intergroup attitudes in post-Brexit Northern Ireland

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Abstract

Cognitive balance theory posits that a drive for cognitively consistent thoughts modulates interpersonal relations. We extended cognitive balance theory to intergroup relations and tested it in a real-life setting where intergroup relations are under strain: Northern Ireland in the wake of the UK's withdrawal from the EU. We predicted that when the groups of Irish people and British people in Northern Ireland are perceived as more compatible, intergroup bias would be lower than when groups are perceived as less compatible. We collected data of residents of Northern Ireland before the UK's official withdrawal from the EU ($N=604$) and after ($N=350$). As hypothesized, attitudes towards British people positively related to attitudes towards Irish people when participants perceived the groups as more compatible. We found the opposite relationship at low levels of perceived compatibility. Exploratory cross-lagged panel analyses did not show that these effects occurred longitudinally, suggesting that cognitive balance does not drive judgements over time possibly because people are less likely to notice inconsistent responses across different time points. The present research demonstrates that intergroup attitudes assessed at a certain point in time follow cognitive balance principles.

KEYWORDS

Brexit, cognitive consistency, intergroup attitudes, social identification

BACKGROUND

The signing of the 1998 Belfast (Good Friday) agreement was a milestone that initiated a period of relative intergroup harmony in Northern Ireland (NI). Though tension remains post-agreement, political instability, conflict, and violence in the region are far less than in the previous 30 years (for an

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overview see Muldoon, 2004). This intergroup conflict took place primarily between Irish nationals and British nationals, both residing in NI. The Irish national identity often goes along with belonging to the Catholic community and having a Nationalist political orientation. The British national identity instead is tied to the Protestant community and having a Unionist political orientation. The political goals between these clusters of social categories are conflicting: Whereas Nationalists usually want a united Ireland—thus a reunification with the Republic of Ireland (RoI)—Unionists want close association with the United Kingdom (UK). It is worth noting that this dichotomous approach is a simplistic view of the conflict but covers some relevant group relations.

Following this period of sustained peace, Brexit now poses a societal challenge that has the potential to reignite intergroup conflict. Common membership of the UK and the RoI in the European Union (EU) was thought to play a role in reducing intergroup conflict among subgroups living in NI (Lowe & Muldoon, 2014). However, the Brexit referendum outcome highlights the ongoing divide between British and Irish nationality identifying people as it mirrored the referendum vote. While the majority of Irish people voted remain, the majority of British people voted leave (Gormley-Heenan & Aughey, 2017). These voting outcomes highlighted again that Irish and British people in NI have conflicting goals and may thus, be perceived as incompatible with each other.

We investigate a general mechanism that may contribute to intergroup bias. Intergroup bias—the preference for one social group over another (Hewstone et al., 2002)—along with social identification—how strongly people feel attached to social groups (Leach et al., 2008)—are considered drivers for intergroup conflict (Hewstone & Greenland, 2000). Several theories have addressed intergroup attitudes and identification with multiple groups (Gaertner et al., 1993; Mummendey & Wenzel, 1999; Turner et al., 1987). While these theories focus on superordinate and subordinate levels of categorization, we test a theoretical framework which focuses on groups at similar levels of inclusiveness. The present research adds to this literature by investigating people's tendency for cognitively balanced judgements of social groups. Specifically, we investigate whether perceptions of compatibility of British and Irish people in NI are associated with a difference in strength of identification with and difference in attitudes towards the two groups. While we aim to test predictions from a cognitive balance approach on social identification and intergroup attitudes, we do so in the applied context of NI. We believe this is a particularly relevant context because of the political decision of the UK to leave the EU, which highlights incompatibility in the goals of Irish and British people in the region. This is exacerbated by the discussion about a custom border to be located on the island, between NI and the RoI (which goes against the goal of many Irish nationals who strive for reunification with the RoI) or in the sea, between NI and the UK (which goes against the goals of many British nationals who strive for closer ties to the UK).

Because the history of violent intergroup conflict and the conflicting goals between Irish and British nationals, we believe that both social groups are self-relevant for residents of NI. Gawronski et al. (2017) suggest that self-relevance may determine the subjective significance of deviating from cognitive balance. Therefore, tolerating cognitive inconsistency in multiple group attitudes and their perceived (in)compatibility should be particularly difficult if people care about these groups. This is mostly the case if at least one of these social groups is an ingroup that people strongly identify with. Therefore, residents of NI will be highly motivated to avoid cognitive dissonance in their judgements of the groups.

A cognitive balance approach to intergroup attitudes

Research in different areas of psychology indicates that people strive for cognitions that are consistent with each other and avoid conflicting cognitions (for overviews see, Gawronski, 2012; Gawronski et al., 2017). Festinger (1957) suggested that cognitions that contradict each other, for example, the judgements *John is nice* and *John is mean* would create dissonance in the beholder. Dissonance is defined as an aversive feeling and Festinger suggested that people are motivated to avoid it.

In cognitive balance theory, Heider (1958) suggested that interpersonal relations are also driven by cognitive consistency. Heider hypothesized that the triad of interpersonal relations is balanced if it consists of only liking relations or an even number of disliking relations. For example, the triad *John likes James, James likes Jane, and John likes Jane* is balanced whereas the triad *John likes James, James dislikes Jane, and John likes Jane* is imbalanced. Heider suggested that people would feel dissonance when facing an imbalanced triad and strive to solve it by changing any of the (dis)likes (for empirical evidence on the preference of balanced triads see Gawronski et al., 2005). According to Festinger (1957), the degree of dissonance felt depends on the subjective importance of the relationships involved. As mentioned above, Gawronski et al. (2017) suggested that self-relevance would affect how much the inconsistency would matter for the individual. To illustrate this using the example above, John may not feel much dissonance caused by James disliking Jane while he likes her if James is a loose acquaintance of John. However, if James is John's brother that he cares about substantially while similarly caring substantially about Jane, the resulting dissonance would be stronger urging the need in John to change any of these cognitions.

Greenwald et al. (2002) applied this logic to cognitive representations of the self and ingroups and in-group favouritism. Ingroup favouritism is a positive attitude towards the ingroup relative to outgroups. Their balanced identity theory states that people evaluate ingroups more positively than outgroups because ingroups are associated with the self and the self is usually evaluated positively. To avoid imbalance, if people identify with a group and show positive self-evaluations, they also evaluate the ingroups positively (Cvencek et al., 2021).

Roth et al. (2018) have extended this logic to identification with multiple groups and intergroup attitudes. Based on a cognitive balance approach, in their theorizing they introduce the concept of (in) compatibility between social groups. They define group compatibility as a perceived overlap between two social groups that can be based on shared characteristics, norms, values, and goals between the groups and incompatibility between the social groups as perceived opposition in the characteristics, norms, values, and goals between the groups. To achieve cognitive balance in cognitions about these groups, people can only identify strongly with both groups when these groups are compatible (i.e., balanced triad: *I identify with British, British are compatible with Irish, I identify with Irish*). If both groups are incompatible and people identify with one group, strongly identifying with the other group also would imply imbalance. Building on the balanced identity approach (Greenwald et al., 2002) and considering that most people have positive self-esteem (Bosson et al., 2000; Yamaguchi et al., 2007) implying that they also show favouritism for the group that they identify strongly with, Roth et al. (2018) suggest the same mechanism for intergroup attitudes. Take the following judgements:

1. "I like British people."
2. "I dislike Irish people."
3. "British people and Irish people are similar in terms of their values, norms and goals."

The third judgement, that British and Irish people are compatible, is relevant to attitudes towards the two groups. However, the cognitions that one group is positively evaluated, the other group is negatively evaluated, and the two groups are compatible with one another are inconsistent. One way to resolve this cognitive inconsistency would be to evaluate the groups similarly that is, if British people are evaluated positively, Irish people should also be evaluated positively and vice versa while maintaining the cognition that the groups are compatible. Alternatively, one could change their perception of the compatibility of the two groups that is, considering the values, norms, and goals of British and Irish people to be opposing while maintaining a positive evaluation of British people and negative evaluation of Irish people would also resolve the cognitive inconsistency.

Based on the application of the cognitive balance logic on multiple group identification and intergroup attitudes, we predict that perceived compatibility between British and Irish people in NI will moderate the relationship between identification with Irish people and British people and attitudes towards both groups.

Preliminary evidence

Previous research has investigated the role of perceived compatibility for adapting a new social identity. Iyer et al. (2009) found that new students who perceived their previous identity as compatible with their new student identity more strongly identified with students. Matschke and Fehr (2017) found that perceived incompatibility of individual's existing cultural identity and host identity can predict disidentification with the receiving society. Loughnane et al. (2021) manipulated the perceived compatibility of students and employees and demonstrated that high group compatibility increased mutual identification with both groups. Finally, Benet-Martínez and colleagues define identity integration of multiple cultural identities as the compatibility of the identities versus the oppositionality of the identities (Benet-Martínez, 2012; Benet-Martínez & Haritatos, 2005).

Previous empirical evidence additionally shows that emphasizing commonalities—and thus increasing the perceived compatibility—between groups can lead to reduced intergroup bias. For example, Sherif and Sherif (1953) found that superordinate goals that are compelling to distinct groups can reduce intergroup conflict. Crisp and Beck (2005) have demonstrated that more (compared to less) overlap in characteristics of ingroup and outgroup members can reduce bias. In addition to finding that increased compatibility facilitates mutual identification, Loughnane et al. (2021) also have shown that it increased similar attitudes towards both groups.

The current study

The main goal of this study is to test predictions derived from a cognitive balance approach (Roth et al., 2018) that we expanded to ingroup and outgroup attitudes in a context of historical intergroup conflict. We considered this approach particularly relevant for understanding intergroup attitudes between British and Irish people in NI because of the recently increased salience of conflicting goals of these social groups. Given the historical and political background, Northern Irish residents may be inclined to perceive British and Irish nationals as incompatible because of diverging goals relating to Irish unification and these conflicting goals being highlighted by the referendum outcome, by Brexit, and by the decisions on a custom border.

Building on Gawronski et al.' (2017) suggestion that self-relevance may determine the subjective significance of cognitive consistency, and thus affecting whether dissonance is tolerated or resolved, we expected that the triad of judgements about British, Irish and their compatibility are self-relevant for most people in NI. In this context, we believe that both social groups are self-relevant given that most people in NI have an Irish or British national identity or both. Making judgements about ingroups should, by definition, be self-relevant since ingroups form part of the self-concept. Similarly, the respective outgroup provides a relevant comparison in this context and should similarly be self-relevant. Therefore, inconsistency in judgements should arouse substantial aversive feeling of dissonance. Accordingly, we expect that residents of NI hold cognitions about British nationals and Irish nationals that are balanced.

An essential precondition for people striving for cognitive consistency in their judgements may be that they identify inconsistencies. Gawronski et al. (2017) have suggested that for inconsistency to arise all thoughts of the cognitive triad need to be simultaneously accessible. Similarly, researchers have suggested that in order to find evidence for the cognitive triad of self-esteem, identity, and ingroup favouritism, all three associations, the association between the self and attributes (i.e., self-esteem), the self and the group (i.e., identity), and the group and attributes (i.e., group attitude), need to be simultaneously assessed (Cvencek et al., 2012). One crucial difference between both approaches is that Cvencek and colleagues suggest that cognitive balance is mirrored in how the associative system organizes (and thus best captured with indirect measures) whereas Gawronski and colleagues make a strong point that cognitive dissonance is a process that needs the assessment of whether people consider the relationships between the concepts involved as true or false and thus, is best captured in judgements that people endorse. In this paper, we do not enter this debate (also for pragmatic reasons because no

indirect measure for group compatibility has been developed or validated so far). However, we explore the precondition that inconsistency needs to be salient and thus, recognized by the beholder. If this is the case then, we should find stronger indication for balanced triads in British and Irish attitudes and group compatibility when measured at the same time point. We would expect to find less evidence for balanced triads when any two of the combinations between two judgements is used to predict the third one over time as people more easily recognize imbalance in their judgements when all judgements are made at a single time point.

For this research, we collected data of NI residents at two time points. We primarily aimed to replicate the findings of Time 1 at Time 2, but also explored the relationships of the variables longitudinally. We suspected that intergroup bias may increase over time because of the UK's official withdrawal from the EU, but that based on our general theoretical approach, judgements would still follow cognitive consistency principles. Whether the relationships between variables followed cognitive consistency principles overtime was a secondary, though we believe worthwhile, investigation.

Our main preregistered hypothesis was to test whether judgements of group compatibility and identification with British and Irish as well as attitudes towards British and Irish mirror a balanced triad. A balanced triad would show up in a moderation where divergence in identification or intergroup attitudes should increase with decreased group compatibility.

METHODS

We preregistered the hypotheses and methods ahead of the Time 2 data collection on the Open Science Framework (https://osf.io/tj59c/?view_only=8ed5d2b7a7524f63b78b07168b4abce1). Materials, data, and code are also available (https://osf.io/uvr6k/?view_only=6cf8e77a65fe4ba58d36a0d2e62044ec).

Study design and participants

We assessed perceived compatibility of Irish and British people, social identification and general evaluations of both, and behavioural intentions towards each of the groups along with demographic variables. We collected these data of residents of NI at two time points—in October and November 2020, prior to the UK's official withdrawal from the EU, and 1 year later, in October and November 2021 after the withdrawal. We received ethical approval from the first author's university research ethics committee (ref: 2020_10_06_EHS).

We recruited participants on Prolific.co, a crowd-sourcing platform with a reputation for providing high quality data (Peer et al., 2017). Participants were pre-screened by Prolific.co so that only residents of NI could complete the questionnaire. We aimed to have over 200 participants at each time point (Sideridis et al., 2014). The total sample at Time 1 included 665 participants. Of those participants who took part at Time 1, 611 participants who provided their participant ID were invited to take part at Time 2. Of the participants at Time 1, 604 were included in the data analysis for Time 1 because they completed the entire questionnaire and met the preregistered inclusion criteria of passing the attention check (64.2% female; mean age 33.99). At Time 2, 350 participants were included into data analysis because they completed the entire questionnaire and passed the attention check (67.6% female; mean age 37.21). Additional information on the national, religious, and political identities of the participants at each time point can be found in Table 1.

Measures

We assessed answers to all items on a 7-point scale (1 = strongly disagree, 7 = strongly agree).

TABLE 1 Breakdown of participants by religion, nationality, and political identity.

	Time 1	Time 2
Religion		
Protestant	229 (37.9%)	141 (40.1%)
Catholic	196 (32.5%)	113 (32.1%)
Not religious	149 (24.7%)	100 (28.4%)
Other	51 (8.4%)	17 (4.8%)
Nationality		
EU citizen	99 (16.4%)	56 (15.9%)
Northern Irish	306 (50.7%)	179 (50.9%)
British	201 (33.3%)	123 (34.9%)
Irish	199 (32.9%)	127 (36.1%)
Other	24 (4.0%)	14 (4.0%)
British and Irish	26 (4.3%)	16 (4.6%)
Political identity		
Unionist	199 (32.9%)	119 (33.8%)
Nationalist	166 (27.5%)	103 (29.3%)
Loyalist	54 (8.9%)	26 (7.4%)
Republican	73 (12.1%)	37 (10.5%)
Other	173 (28.6%)	101 (28.7%)

Note: For the above self-categorizations, participants could indicate as many identities that applied to them.

Group compatibility

We assessed group compatibility using three items. Two items asked directly about group compatibility [“The groups Irish and British are compatible (there is harmony between the groups in terms of norms, values and rules)”] and group incompatibility [“The groups Irish and British are incompatible (there is conflict between the groups in terms of norms, values and rules)”]. The third item was a graphical representation asking about the overlap between the groups (Schubert & Otten, 2002). It consists of seven pictures, on each of which two circles of the same size that refer to “British people” and “Irish people” respectively can be seen at various distances. While the circles are far apart in the first image, they overlap almost completely in the seventh image. Items were presented in random order. Negatively polarized items were reverse scored and mean scores were calculated (Time 1 $\alpha = .84$; Time 2 $\alpha = .87$). Higher scores indicate higher perceived compatibility.

Group identification

All participants filled in five items to assess identification with both British people and Irish people. Items were adapted from Leach et al. (2008) to capture the breadth of the construct (e.g., “I feel committed to British/Irish people”). These items were presented in random order and the target groups were also presented in random order. Higher mean scores indicate higher identification with British people (Time 1 $\alpha = .86$; Time 2 $\alpha = .87$) and Irish people (Time 1 $\alpha = .84$; Time 2 $\alpha = .87$) respectively.

Group evaluations

As one component of group attitudes, we assessed group evaluations using trait ratings (Turner et al., 2012). Trait ratings included three positive (good, pleasant, warm) and three negative

(bad, unpleasant, cold) adjectives that were rated for both British people and Irish people separately. Items were presented in random order for each target group and target groups were also presented in random order. Negative trait ratings were reverse scored. Higher mean scores indicate more positive evaluations of British people (Time 1 $\alpha = .85$; Time 2 $\alpha = .88$) and Irish people (Time 1 $\alpha = .85$; Time 2 $\alpha = .89$) respectively.

Behavioural intentions towards the groups

We additionally assessed group attitudes based on behavioural intentions with six items (see Turner et al., 2012; Wildschut et al., 2014). Participants were asked to rate their reactions towards British people and towards Irish people separately (e.g., “I want to talk to them”). Items were presented in random order and the order of target groups was randomized. Higher mean scores indicate more positive behavioural intentions towards British people (Time 1 $\alpha = .91$; Time 2 $\alpha = .92$) and Irish people (Time 1 $\alpha = .90$; Time 2 $\alpha = .90$) respectively.

Procedure

Participants were informed that the aim of the current research was to understand the effects of Brexit in NI. Participants read a research privacy notice and gave consent before progressing to the questionnaire. Participants first completed demographic information on their identities (see Table 1). Next, participants answered identification items for each of the national groups, British and Irish. The attention check was also included in this section (“It is important to read questions carefully, please select strongly agree”). Participants then completed trait ratings and afterwards behavioural intentions towards British and Irish before being asked to rate the perceived compatibility for both groups. These scales were included in a larger set of scales that are not of specific interest for the present study (see OSF link for all scales). Finally, participants were debriefed and thanked for their participation. Completion of the questionnaire at each time point took on average 13 min. Participants were paid £1.25 at Time 1 and £2 at Time 2.

RESULTS

The means, standard deviations, and correlations between the variables at Time 1 and Time 2 are available in Tables 2 and 3 respectively.

We specifically predicted that perceived compatibility of British and Irish people will moderate the relationship between identification with British people and identification with Irish people. Similarly, we hypothesized that perceived compatibility will also moderate the relationship between attitudes towards British people and attitudes towards Irish people. When compatibility is higher, participants will identify similarly strongly with British people and Irish people and will hold similar attitudes towards the two groups. When participants perceive the groups as less compatible this relationship will be reduced or even reversed.

Cognitive balance in group identification

We examined the moderation of the relationship between British identification and Irish identification by group compatibility using PROCESS linear regression model 1 for SPSS (Hayes, 2017). The hypothesized interaction of British identification \times perceived compatibility was statistically significant at both time points [Time 1: $b = 0.19$, $SE = 0.02$, $t(600) = 8.23$, $p < .001$; Time 2: $b = 0.11$, $SE = 0.03$, $t(346) = 3.43$, $p < .001$].

TABLE 2 Correlations, means, and standard deviations at Time 1.

	M	SD	1	2	3	4	5	6	7
1. Group compatibility	3.23	1.33		.324***	.051	.329***	.058	.319***	.085*
2. British identification	4.32	1.30			.030	.569***	-.025	.601***	-.046
3. Irish identification	5.11	1.08				-.051	.539***	-.044	.591***
4. British TR	4.44	0.95					.154***	.672***	.052
5. Irish TR	5.34	0.82						.086*	.660***
6. British BI	4.77	1.27							.235***
7. Irish BI	5.51	1.06							

Note: * $p < .05$, *** $p < .001$.

Abbreviations: BI, behavioural intentions; TR, trait ratings.

TABLE 3 Correlations, means and standard deviations at Time 2.

	M	SD	1	2	3	4	5	6	7
1. Group compatibility	3.28	1.37		.212***	.147**	.268***	.108*	.281***	.169**
2. British identification	4.29	1.30			.086	.615***	-.026	.656***	.006
3. Irish identification	5.02	1.14				.050	.508***	.066	.638***
4. British TR	4.42	0.97					.155**	.712***	.126*
5. Irish TR	5.33	0.87						.061	.600***
6. British BI	4.69	1.29							.244***
7. Irish BI	5.44	1.06							

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Abbreviations: BI, behavioural intentions; TR, trait ratings.

We further used the Johnson–Neyman technique to probe the interaction effects and identify the ranges of values of the moderator for which the interaction effect is significant as well as the direction of the significant effects. At Time 1, results showed a significant negative relationship between British identification and Irish identification for perceived compatibility scores of 2.26 and below; there was no significant relationship for scores ranging from 2.51 to 3.25, and there was a significant positive relationship for scores of 3.53 and greater (see Figure 1a). At Time 2, a significant negative relationship between British identification and Irish identification only occurred at the lowest possible level of perceived compatibility of the two groups (1.00); there was no significant relationship for scores ranging from 1.20 to 3.45, and there was a significant positive relationship for scores of 3.53 and greater (see Figure 1b).

In line with the hypothesis, Irish identification, British identification, and perceived compatibility of the groups mirror balanced triads. When participants perceived the groups as more compatible, they identified similarly strongly with both groups and at the lowest levels of perceived compatibility high identification with one group was associated with low identification with the other group.

Cognitive balance in group evaluations

The same linear regression analysis for group evaluations replicated the hypothesized interaction of British trait ratings \times perceived compatibility at both time points [Time 1: $b = 0.19$, $SE = 0.02$, $t(600) = 8.48$, $p < .001$; Time 2: $b = 0.17$, $SE = 0.03$, $t(346) = 5.77$, $p < .001$]. Again, we used the Johnson–Neyman technique to further probe the interaction effects.

At Time 1, results show that there is a significant negative relationship between British trait ratings and Irish trait ratings for perceived compatibility scores of 1.63 and below, there is no

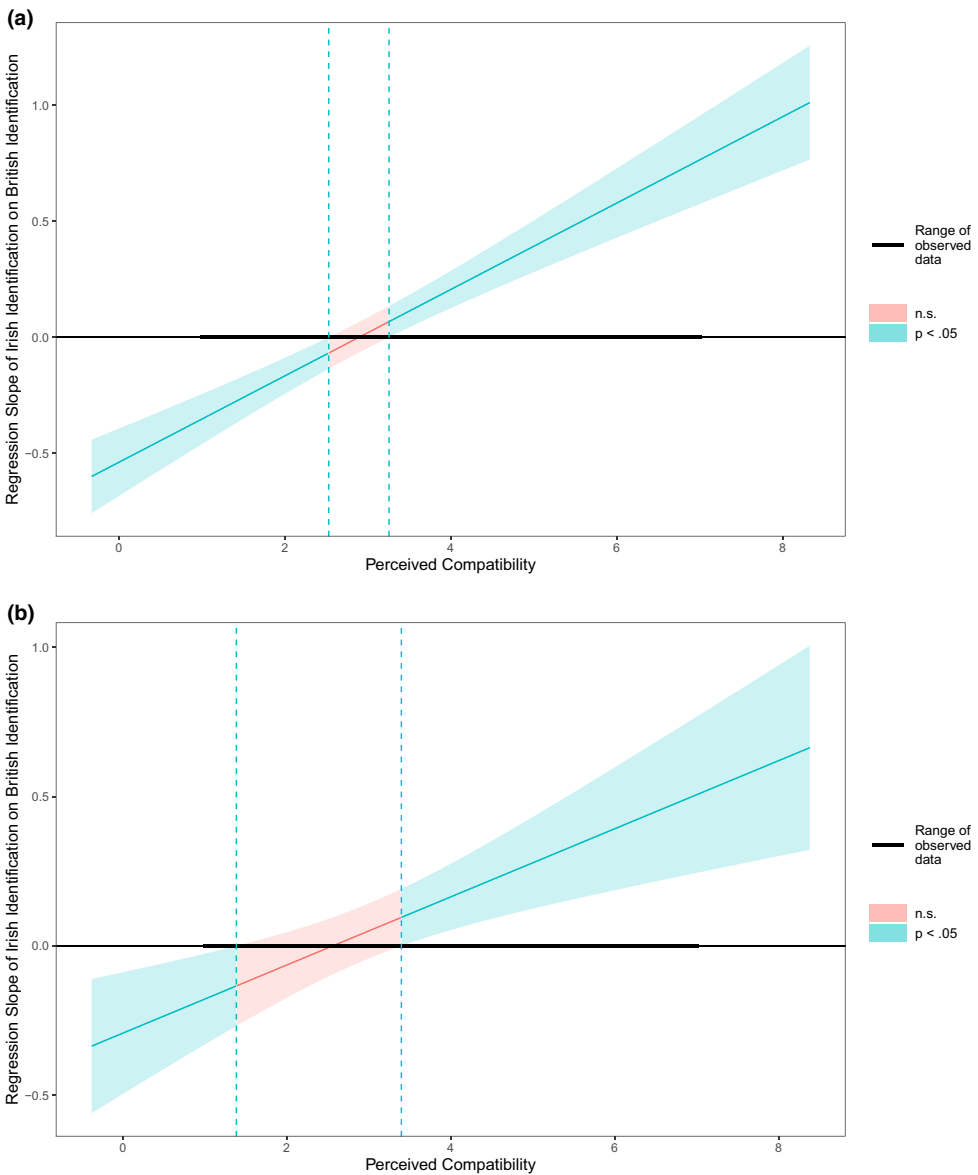


FIGURE 1 (a) The moderating effect of perceived group compatibility on the relationship between British identification and Irish identification Time 1: at higher levels of perceived compatibility there is a significant positive relationship between British identification and Irish identification and at lower levels of perceived compatibility there is a significant negative relationship. (b) The moderating effect of perceived group compatibility on the relationship between British identification and Irish identification Time 2: at higher levels of perceived compatibility there is a significant positive relationship between British identification and Irish identification and at lower levels of perceived compatibility there is a significant negative relationship.

significant relationship for scores ranging from 1.86 to 2.67, and there is a significant positive relationship for scores of 2.89 and greater (see [Figure 2a](#)). At Time 2, a significant negative relationship between British trait ratings and Irish trait ratings only occurs at the lowest possible level of perceived compatibility of the two groups 1.32 and below, there is no significant relationship for scores ranging from 1.53 to 2.80, and there is a significant positive relationship for scores of 2.89 and greater (see [Figure 2b](#)).

Cognitive balance in behavioural intentions

We additionally investigated whether perceived compatibility of the two groups moderated the relationship between behavioural intentions towards both groups. The interaction effect British behavioural intentions \times compatibility was significant at both time points [Time 1: $b = 0.20$, $SE = 0.02$, $t(600) = 9.00$, $p < .001$; Time 2: $b = 0.20$, $SE = 0.03$, $t(346) = 7.10$, $p < .001$], indicating that the perceived compatibility moderates the relationship between behavioural intentions towards both groups.

The Johnson–Neyman technique showed that at Time 1, there was a significant negative relationship between British behavioural intentions and Irish behavioural intentions for perceived compatibility scores of 1.32 and below, no significant relationship for scores ranging from 1.46 to 2.25, and there was a significant positive relationship for scores of 2.26 and greater (see Figure 3a). At Time 2, there was a significant negative relationship between British behavioural intentions and Irish behavioural intentions for perceived compatibility scores of 1.32 and below, no significant relationship for scores ranging from 1.48 to 2.49, and there was a significant positive relationship for scores of 2.58 and greater (see Figure 3b).

Longitudinal analysis

Following the cross-sectional analyses, we conducted longitudinal analyses utilizing cross-lagged panel models to investigate the relationships between variables over time. The primary focus of this analysis was to explore whether people show cognitively balanced judgements over time. Thus, we investigated whether the interaction between perceived compatibility and British identification at Time 1 predicted Irish identification at Time 2 and whether the interaction between perceived compatibility and attitudes towards British at Time 1 predicted attitudes towards Irish at Time 2. For these analyses we employed robust maximum-likelihood estimation in R, using the Lavaan package (Rosseel, 2012). We conducted three separate cross-lagged panel models, one each investigating group identification, group evaluations and behavioural intentions towards the groups. In each of the cross-lagged panel models, predictor variables were mean centred¹ and all models were saturated.

Neither the interaction between Irish identification and perceived compatibility at Time 1 predicted British identification at Time 2 ($b = -0.02$, $p = .480$) nor did the interaction between British identification and perceived compatibility at Time 1 predict Irish identification at Time 2 ($b = 0.02$, $p = .460$). See Table 4 for all regression coefficients associated with this model.

The interaction between Irish trait ratings and perceived compatibility at Time 1 did not predict British trait ratings at Time 2 ($b = 0.04$, $p = .282$) but the interaction between British trait ratings and perceived compatibility at Time 1 did predict Irish trait ratings at Time 2 ($b = 0.06$, $p = .047$). See Table 5 for all regression coefficients associated with this model.

The interaction between Irish behavioural intentions and perceived compatibility at Time 1 did not predict British behavioural intentions at Time 2 ($b = 0.05$, $p = .140$) nor did the interaction between British behavioural intentions and perceived compatibility at Time 1 predict Irish behavioural intentions at Time 2 ($b = 0.03$, $p = .362$). See Table 6 for all regression coefficients associated with this model.

DISCUSSION

The present research investigated whether identification with British and Irish people in NI and attitudes towards British and Irish people are cognitively balanced. We tested the relationship between

¹At both time points, a small number of participants failed to provide participant IDs. To account for this, those participants who did not provide an ID at Time 1 were assigned random IDs and were included in the analysis. Since participants who did not provide an ID at Time 2 could not then be linked to responses at Time 1 and could not be treated as independent entries they were removed from the longitudinal analysis.

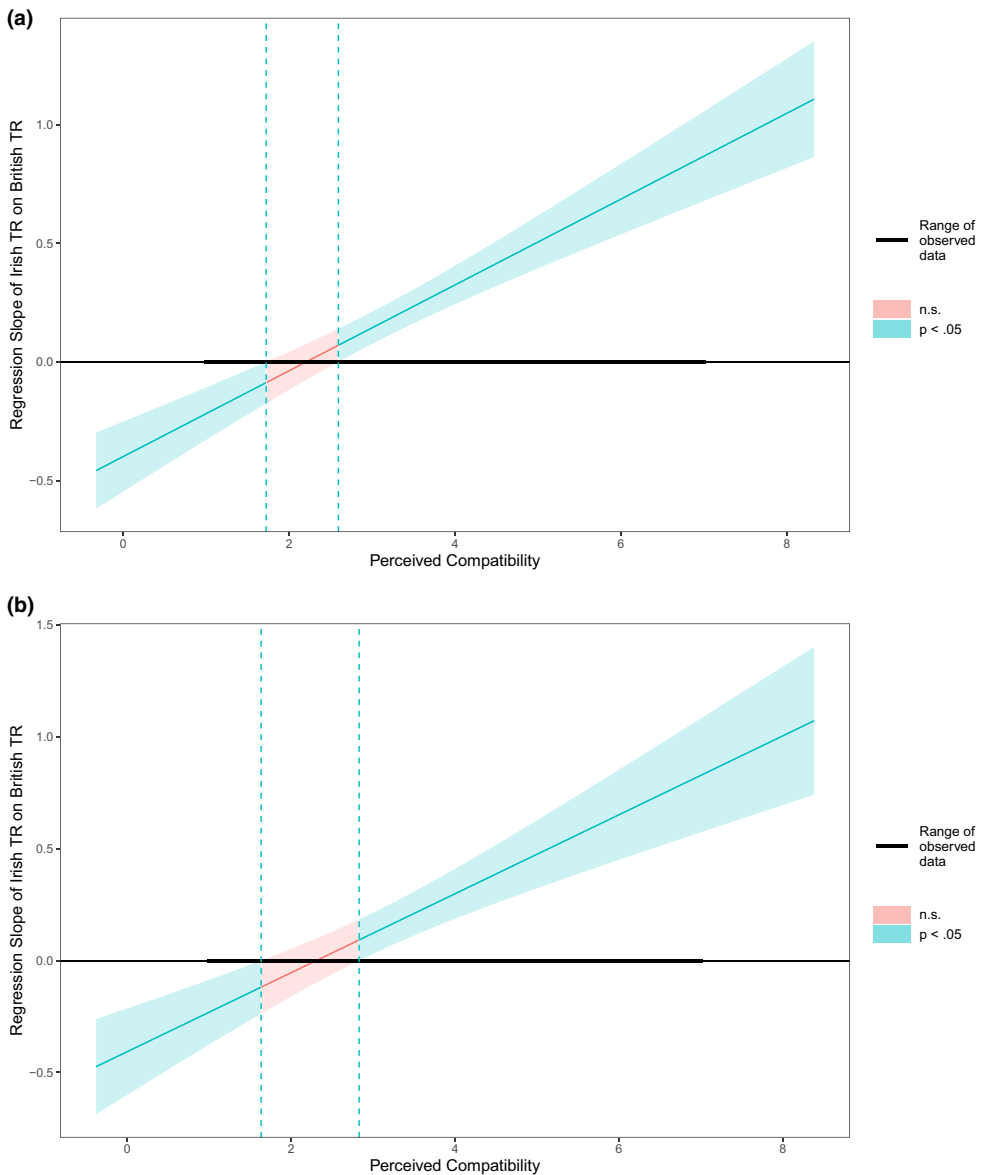


FIGURE 2 (a) The moderating effect of perceived group compatibility on the relationship between British trait ratings and Irish trait ratings Time 1: at higher levels of perceived compatibility there is a significant positive relationship between British trait ratings and Irish trait ratings and at lower levels of perceived compatibility there is a significant negative relationship. (b) The moderating effect of perceived group compatibility on the relationship between British trait ratings and Irish trait ratings Time 2: at higher levels of perceived compatibility there is a significant positive relationship between British trait ratings and Irish trait ratings and at lower levels of perceived compatibility there is a significant negative relationship.

British and Irish identification and attitudes towards these groups for different levels of perceived group compatibility cross-sectionally and longitudinally. The cross-sectional findings were in line with hypotheses. Results showed that when participants perceived British people and Irish people as more compatible, higher British identification was associated with higher Irish identification. At lower levels of perceived compatibility, we found the opposite association; higher British identification was associated with lower Irish identification. Similarly, when perceived compatibility was higher, more positive attitudes towards British people were positively associated with more positive attitudes towards Irish

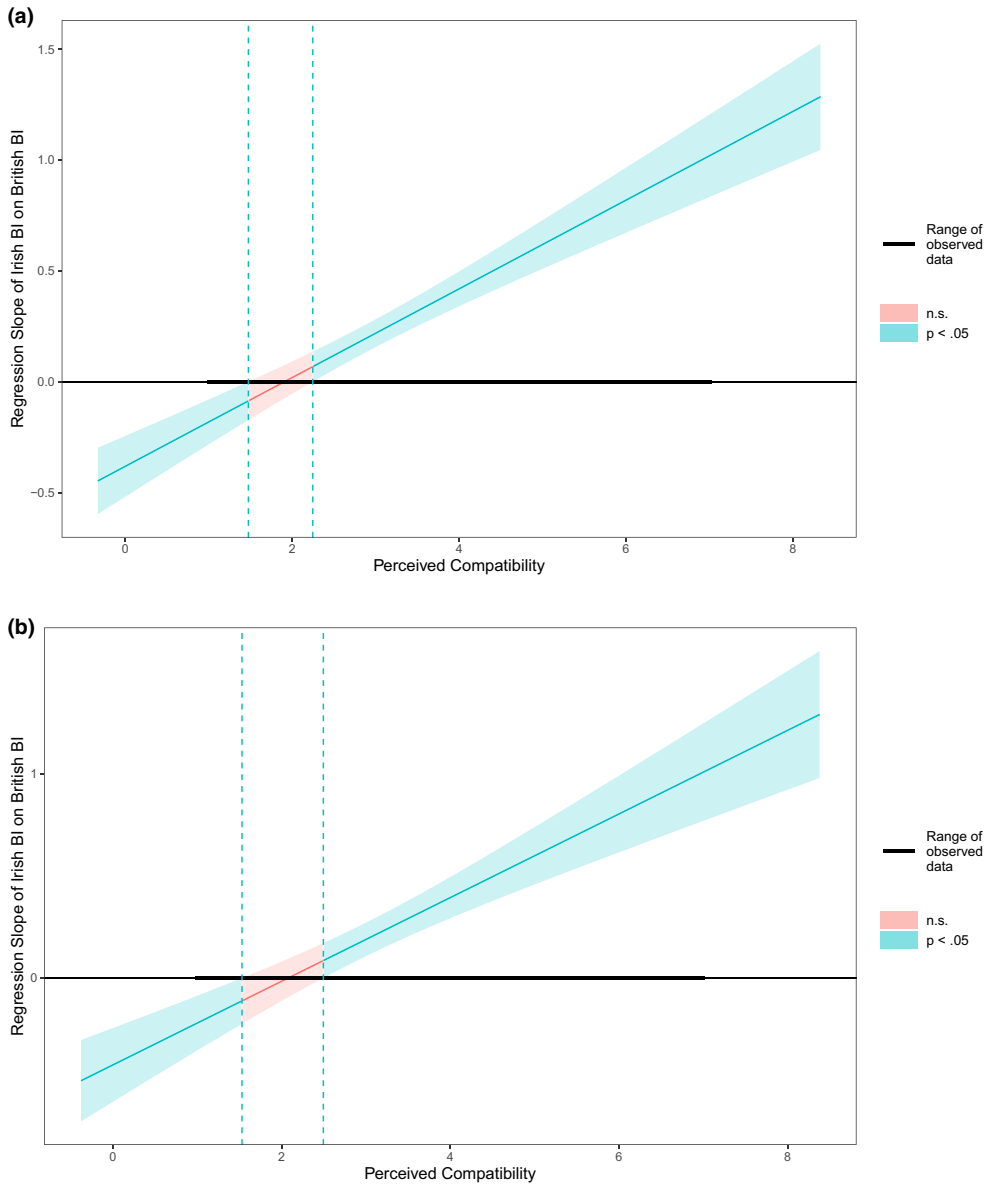


FIGURE 3 (a) The moderating effect of perceived group compatibility on the relationship between British behavioural intentions and Irish behavioural intentions Time 1: at higher levels of perceived compatibility there is a significant positive relationship between British behavioural intentions and Irish behavioural intentions and at lower levels of perceived compatibility there is a significant negative relationship. (b) The moderating effect of perceived group compatibility on the relationship between British behavioural intentions and Irish behavioural intentions Time 2: at higher levels of perceived compatibility there is a significant positive relationship between British behavioural intentions and Irish behavioural intentions and at lower levels of perceived compatibility there is a significant negative relationship.

people. Again, at lower levels of perceived compatibility, more positive attitudes towards British people were associated with less positive attitudes towards Irish people. These findings replicated for both group evaluations and behavioural intentions. These findings were consistent across both time points. Altogether, the cross-sectional analyses provide support for the assumption that identification and attitudes towards British and Irish people in NI are balanced.

TABLE 4 Regression for identification and group compatibility at Time 1 and Time 2.

	<i>B</i>	β	<i>SE</i>	<i>z</i>	<i>p</i>
Irish identification (T2)					
Irish identification (T1)	0.68	.65	0.05	15.01	<.001
British identification (T1)	-0.03	-.03	0.04	-0.63	.530
Compatibility (T1)	0.00	.00	0.04	0.11	.916
British ID × Compatibility (T1)	0.02	.03	0.03	0.74	.460
Irish ID × Compatibility (T1)	-0.05	-.08	0.03	-1.82	.069
Compatibility (T2)					
Irish identification (T1)	0.15	.12	0.06	2.54	.011
British identification (T1)	0.02	.02	0.05	0.35	.727
Compatibility (T1)	0.61	.59	0.05	13.03	<.001
British ID × Compatibility (T1)	-0.02	-.03	0.03	-0.68	.496
Irish ID × Compatibility (T1)	0.01	.02	0.04	0.34	.732
British identification (T2)					
Irish identification (T1)	-0.16	-.13	0.05	-3.17	.002
British identification (T1)	0.72	.71	0.04	16.76	<.001
Compatibility (T1)	0.04	.04	0.04	1.07	.285
British ID × Compatibility (T1)	-0.00	-.01	0.03	-0.13	.900
Irish ID × Compatibility (T1)	-0.02	-.03	0.03	-0.71	.473

Note: T1 = Time 1, T2 = Time 2; bold indicates that regressions were significant at $p < .05$ level.

Abbreviations: ID, identification.

TABLE 5 Regression for trait ratings and group compatibility at Time 1 and Time 2.

	<i>B</i>	β	<i>SE</i>	<i>z</i>	<i>p</i>
Irish trait ratings (T2)					
Irish trait ratings (T1)	0.61	.58	0.05	12.19	<.001
British trait ratings (T1)	-0.04	-.04	0.04	-0.83	.408
Compatibility (T1)	0.05	.08	0.03	1.81	.070
British TR × Compatibility (T1)	0.06	.09	0.03	1.99	.047
Irish TR × Compatibility (T1)	-0.04	-.05	0.03	-1.19	.233
Compatibility (T2)					
Irish trait ratings (T1)	-0.02	-.01	0.08	-0.29	.769
British trait ratings (T1)	0.11	.07	0.07	1.46	.144
Compatibility (T1)	0.61	.59	0.05	13.18	<.001
British TR × Compatibility (T1)	-0.01	-.01	0.05	-0.27	.789
Irish TR × Compatibility (T1)	-0.08	-.07	0.05	-1.52	.128
British trait ratings (T2)					
Irish trait ratings (T1)	-0.07	-.06	0.05	-1.32	.188
British trait ratings (T1)	0.64	.62	0.05	13.57	<.001
Compatibility (T1)	0.10	.13	0.03	3.24	.001
British TR × Compatibility (T1)	-0.02	-.03	0.03	-0.73	.466
Irish TR × Compatibility (T1)	0.04	.05	0.03	1.08	.282

Note: T1 = Time 1, T2 = Time 2; bold indicates that regressions were significant at $p < .05$ level.

Abbreviation: TR, trait ratings.

TABLE 6 Regression for behavioural intentions and group compatibility at Time 1 and Time 2.

	<i>B</i>	β	<i>SE</i>	<i>z</i>	<i>p</i>
Irish behavioural intentions (T2)					
Irish behavioural intentions (T1)	0.63	.62	0.05	12.06	<.001
British behavioural intentions (T1)	-0.05	-.05	0.04	-1.04	.297
Compatibility (T1)	0.07	.09	0.04	2.11	.035
British BI \times Compatibility(T1)	0.03	.04	0.03	0.91	.362
Irish BI \times Compatibility(T1)	-0.03	-.05	0.03	-1.04	.299
Compatibility (T2)					
Irish behavioural intentions (T1)	-0.02	-.02	0.07	-0.32	.748
British behavioural intentions (T1)	0.13	.12	0.06	2.33	.020
Compatibility (T1)	0.60	.57	0.05	12.94	<.001
British BI \times Compatibility (T1)	-0.00	-.00	0.04	0.07	.945
Irish BI \times Compatibility (T1)	-0.08	-.09	0.04	-1.84	.066
British behavioural intentions (T2)					
Irish behavioural intentions (T1)	-0.05	-.04	0.06	-0.79	.432
British behavioural intentions (T1)	0.66	.65	0.05	13.59	<.001
Compatibility (T1)	0.08	.09	0.04	1.97	.049
British BI \times Compatibility (T1)	0.01	.01	0.03	0.26	.797
Irish BI \times Compatibility (T1)	0.05	.07	0.04	1.48	.140

Note: T1 = Time 1, T2 = Time 2; bold indicates that regressions were significant at $p < .05$ level.

Abbreviation: BI, behavioural intentions.

The longitudinal analyses provided only little support for balanced judgements over time. The interaction between Irish identification and perceived compatibility of Irish people and British people at Time 1 did not predict British identification at Time 2. The reverse interaction effect was also not significant indicating that perceived compatibility did not moderate how British identification at Time 1 predicted Irish identification at Time 2. The second longitudinal model investigated the moderating effect of perceived compatibility on trait ratings of British people and Irish people. For this model, some evidence was found for cognitive balanced judgements over time. For higher levels of perceived compatibility at Time 1, more positive British trait ratings at Time 1 predicted more positive Irish trait ratings at Time 2 however, perceived compatibility between British and Irish people at Time 1 did not moderate the association of Irish trait ratings at Time 1 and British trait ratings at Time 2. The final longitudinal model on the relationship between behavioural intentions towards Irish people and behavioural intentions towards British people did not provide support for balanced judgements over time, specifically. Perceived compatibility at Time 1 did not moderate the relationship of behavioural intentions towards Irish people at Time 1 and behavioural intentions towards British people at Time 2 nor did perceived compatibility at Time 1 moderate the relationship of behavioural intentions towards British people at Time 1 and behavioural intentions towards Irish people at Time 2. Taken together, the longitudinal analyses show little support for the assumption that identification and attitudes towards British people and Irish people in NI are cognitively balanced across time points.

The cross-sectional data very consistently confirmed our hypotheses and thus, support the model of Roth et al. (2018) that suggests that identification with multiple groups and intergroup attitudes follow a cognitively balanced structure. The theory behind this model is based on the balanced identity design of Greenwald et al. (2002). In line with Heider's (1958) predictions that interpersonal relations are influenced by motivation to attain cognitive consistency, at each of the time points participants identified to a similar extent with British people and Irish people and held more similar attitudes towards both groups when they perceived them as more compatible. It would be cognitively inconsistent for participants to

identify with both groups simultaneously and to evaluate both groups similarly if they perceived the groups as incompatible. The findings are therefore similarly in line with previous research and theory outlining a cognitive balance approach to understanding intergroup bias (see Gawronski, 2012). If people experience cognitive dissonance due to their perception of compatibility of two groups as well as their attitudes towards both groups being imbalanced, they may change their judgements (Gawronski et al., 2005). This change in judgements results from a motivation for cognitive consistency. The findings are also consistent with previous research that has shown that people more easily integrate multiple identities into their self-concept and show less intergroup bias when they perceive the groups as more compatible (e.g., Crisp & Beck, 2005; Iyer et al., 2009; Loughnane et al., 2021; Matschke & Fehr, 2017).

Longitudinally, the moderating effect of perceived compatibility on the relationship between identification with both groups as well as attitudes towards both groups over time was only weakly evidenced. Thus, despite the strong evidence for cognitively balanced judgements assessed cross-sectionally, we did not find convincing evidence that people strive for balanced judgements over time. For cognitive consistency to be a motivator of judgements it has been suggested that it is essential that people can identify the inconsistency in their judgements (Gawronski et al., 2017). We expect the judgements of participants to adhere to a balanced knowledge structure that is, that participants respond in a cognitively balanced way. A critical factor in predicting whether this knowledge structure is applied is that the structure is momentarily accessible (Gawronski & Bodenhausen, 2006). Applying this interpretation to the current study goes some way to explaining why the moderating effect of compatibility is consistently found cross-sectionally but not longitudinally. At each of the distinct time points participants are asked about their identification with and attitudes towards British and Irish people as well how compatible they perceive the groups to be and as such, the knowledge structures associated with the evaluations (which are relevant to one another) become momentarily accessible. It is therefore easy for participants to identify whether their responses are balanced. However, these knowledge structures do not remain activated between timepoints and the inconsistencies in responses across time may not be recognized. As a result, the extent to which responses follow cognitively balanced patterns is reduced.

Apart from the theoretical relevance, the present research may have practical implications. As Brexit potentially threatens intergroup harmony in the region of NI it is vitally important to understand the potential applications of this research. The conflict in NI was among the most violent and intense in Europe in modern history (Hayes & McAllister, 2001) and it is essential that policies are put in place to ensure that this particular political event does not increase the likelihood of intergroup conflict in the region. The findings of the current study suggest that if people identify strongly with British or Irish nationals and have positive attitudes towards one of these groups, emphasizing the commonalities between the groups could help fostering intergroup harmony by decreasing bias. Of course, the present research does not provide any causal evidence on whether group compatibility drives positive attitudes towards the second group. However, if people strive for balanced cognitions, identification with one group and positive attitudes towards this group should go along with identification and positive attitudes towards the second group when the groups are perceived to be compatible with each other. Thus, repeatedly making salient the compatibility instead of the opposition between British and Irish people in the region may go some way to preventing an increase in intergroup conflict in NI in the fallout of the Brexit referendum. Similarly, reducing the focus on the competing goals of the distinct social groups in the region may go some way to maintaining intergroup harmony. Additionally, at both time points and for all measures, the threshold that perceived compatibility needed to reach for reduced bias to be seen was below the midpoint of the scale. This suggests that relatively minor increases in perceived compatibility of the two groups may be associated with reduced intergroup bias, implying that this may be a relatively easy and practicable means to reducing bias.

Limitations and future research

A strength of this research is that the expected relationships between variables replicated at two separate time points, both prior to and following the official withdrawal of the UK from the EU and across

different measures of intergroup relations. However, a possible limitation is the timing of data collection. We propose that the lack of evidence of a moderating effect of perceived compatibility on identification and attitudes towards British and Irish over time is due to the fact that the cognitive imbalance of responses from one time to another is not clear to the respondent (Gawronski & Bodenhausen, 2006). As the two waves of data collection occurred 12 months apart, it is possible that had data been collected closer together that this moderating effect may have been observed. Future research could investigate the duration it takes for such a moderating effect to be lost by collecting data at more frequent time points.

Prior to data collection at Time 2 we preregistered the hypotheses that perceived compatibility of British and Irish people would moderate the relationship between both identification with and attitudes towards the groups. It may be a shortcoming of the current study that during data collection the moderator was measured after the predictor and outcome variables in the proposed models. Note, that the overall predictions are based on a cognitive balance approach to understanding the relationships between the variables and the key finding is that these variables exist in balanced triads rather than any of the variables being predictors or outcomes. Thus, our theoretical approach similarly suggests that the more positive the attitudes towards one group and the less positive the attitudes towards the other group the less compatible both groups are perceived to be. Conducting moderation analysis with perceived compatibility as the outcome variable also results in significant interaction effects (see Appendix S1) supporting our theory. The present research is based on data of a larger project that investigates intergroup relations in NI and included additional variables that go beyond the scope of the present research question and were not tied to preregistered hypotheses. All variables assessed can be found on OSF. We cannot preclude that any variables assessed prior to the present variables of interest have affected people's responses however, based on the strength and consistency of the findings and our complementary analysis we believe that this is unlikely.

We investigated a cognitive balance approach to understanding intergroup attitudes in the context of NI post-Brexit. Gawronski et al. (2017) suggest that people are more highly motivated to avoid cognitive inconsistency in relation to self-relevant groups. We therefore expected to find that perceived compatibility of the groups would moderate identification with and attitudes towards both groups as British people and Irish people were both likely self-relevant for participants (residents of NI). However, we did not test this boundary condition. This calls into question the generalizability of the current results. Future research could investigate groups that are not self-relevant to participants.

The aim of the current research was to investigate a perceived compatibility as a predictor of reduced intergroup bias. The current findings show correlational support that higher perceived compatibility is associated with similar levels of identification with both groups and similar attitudes towards both groups. Future research in a similar context could investigate a causal effect of compatibility on reduced intergroup bias by experimentally manipulating the compatibility of the groups. Such a study design may similarly allow researchers to distinguish between whether higher compatibility is associated with positive attitudes towards both groups as opposed to negative attitudes towards both groups. In a context where the groups are self-relevant i.e., one group is an ingroup, we might expect that increasing compatibility would be associated with more positive attitudes towards both groups since just as most people show positive self-esteem (Bosson et al., 2000; Yamaguchi et al., 2007) they similarly strive for positive evaluations of their ingroup (Greenwald et al., 2002). In a context where the groups are not self-relevant perceived compatibility may also be associated with more negative attitudes towards both groups. Future research could additionally test these boundary conditions.

Our demographic data (see Table 1) reveal that approximately half of participants at both time points self-categorized as Northern Irish. Previous researchers have suggested that the Northern Irish identity could act as a superordinate category inclusive of both Irish and British people (Lowe & Muldoon, 2014). In line with the common ingroup identity model (Gaertner et al., 1993) one may suggest that self-categorizing as Northern Irish has facilitated the perceived compatibility of Irish and British people in the region. However, supplemental exploratory analysis did not support this prediction; we did not find a significant difference in perceived compatibility between those who did and did not self-categorize

as Northern Irish in our sample (see Appendix S1) which may rather support predictions from the in-group projection model (Mummendey & Wenzel, 1999) or reflect previous research which suggests that Northern Irish identity can mean different things to different people (McNicholl et al., 2019). Future research could investigate whether perceived compatibility between subgroups in a superordinate category context is a necessary precondition for superordinate categorization to improve intergroup relations.

It is also worth noting that in this context our measures of national identification could act as proxies for general political orientation, family background, geographical location in NI etc. and as such we do not see much change in these mean scores over time. For future research targeting longitudinal changes in identification, a more nuanced variable may be required.

While our findings provide evidence that people respond syllogistically to statements at a present point in time, another consideration of future research would be to address whether the balanced responses that we find at each time point are the result of propositional processes (Gawronski & Bodenhausen, 2007) or that associative processes follow balance principles (Cvencek et al., 2021). Notably, there are many ways for people to respond to cognitive inconsistencies beyond what was measured in the current study. People may alternatively reframe salient aspects of the group resulting in changes in perceived compatibility. Future research could explore different strategies of achieving cognitive consistency in intergroup judgements. Finally, at both waves of data collection, approximately 20% of our sample indicated that they had voted to leave the European Union in the Brexit referendum. Thus our sample does not represent either the UK population (of which over 50% voted to leave) nor the NI population (of which 44% voted to leave, “EU Referendum, 2016”). However, we have no reason to believe that the presumed psychological mechanisms investigated in the current study would differ in another sample.

CONCLUSION

Most importantly, the present findings support a cognitive balance approach to understanding multiple group identification and intergroup attitudes. This approach provides a new and parsimonious account to understanding relationships between social groups. It also provides a general explanatory framework for previous research that has demonstrated that emphasizing commonalities between social groups reduces intergroup bias.

The results of the current study are bedded in the specific context of NI in the wake of the Brexit referendum outcome. While it is important to understand predictors of intergroup attitudes considering this particular political event and given the historical context of the region, the potential benefits of this research are wide ranging. This is because we can potentially apply the theoretical framework used to inform the study to any situation where understanding identity integration and subsequent intergroup attitudes are important. Similarly, the cognitive consistency approach to understanding intergroup bias is not specific to this context and can potentially be applied to any intergroup attitudes. It is also important to note that as the outcomes of Brexit become clearer in the future, there may be further implications for the relationships between subgroups in NI. Future research may benefit from further data collection as the situation evolves.

AUTHOR CONTRIBUTIONS

Jack Loughnane: Writing – original draft (lead); review and editing (equal); conceptualization (equal); formal analysis (lead); methodology (equal); visualization (lead). **Jenny Roth:** Conceptualization (equal); formal analysis (supporting); writing – review and editing (equal); methodology (equal); supervision (lead). **Wijnand A. P. van Tilburg:** writing – review and editing (equal); methodology (equal); formal analysis (supporting).

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF.com at [https://osf.io/uvr6k/?view_only=6cf8e77a65fe4ba58d36a0d2e62044ecj].

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SUPPORTING INFORMATION

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