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Social-identity Interventions for Intergroup Bias Reduction: Systematization and Recommendations for the Improvement of Procedures

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Socijalnoidentitetske intervencije za redukciju međugrupnih pristrasnosti: sistematizacija i predlozi za unapređenje procedura

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Social-identity interventions for intergroup bias reduction: Systematization and recommendations for the improvement of procedures

Abstract

In this thesis, we focused on social-identity interventions for intergroup bias reduction, more precisely, on methodological practices used when these interventions are tested. We aimed to systematically review practices of using manipulation and plausibility checks, and then to experimentally test how individual differences shape the relations between intervention and its plausibility, effectiveness, and success.

In the systematic literature review (Study 1), we analyzed the current practices of plausibility and manipulation checks use in experimental studies that test social-identity interventions for intergroup bias reduction. We were interested in the frequency of plausibility and manipulation checks use in these experiments, as well as on the purpose of these checks, i.e., whether they are used as criteria for participants' exclusion from the analysis of interventions' effects. The results indicate that the use of manipulation checks is more frequent than the previously observed average in socio-psychological experiments. On the other hand, the use of plausibility checks is extremely rare. Additionally, we observed that these types of checks are rarely used as exclusion criteria.

Then, across four experiments (Study 2), we tested two variations of a dual-identity intervention that originate from the Gateway group paradigm – one framed from the outgroup perspective, and another framed from the ingroup perspective. Here we were particularly focused on differences between the interventions in terms of their plausibility and effectiveness to induce perception of gateway groups' dual identity, as well as on the relations between individual differences in ideological beliefs, ethnic identification, ethnocultural perspective taking, outgroup threat perception, and outgroup contact on one hand, and plausibility and dual identity perception on the other. The experiments were conducted in three post-conflict contexts: Serbia, Federation of Bosnia and Herzegovina, and Republika Srpska. Our results consistently indicated that plausibility assessment is shaped by individual differences in outgroup threat perception and perspective taking. When it comes to the differences between the interventions, we observed that the effectiveness of outgroup experience intervention, but not ingroup norm intervention, was moderated by plausibility assessment. This effect was especially pronounced in the contexts that were more directly affected by the recent intergroup conflict (Federation of Bosnia and Herzegovina, Republika Srpska), compared to the context of Serbia where conflict was present less directly.

Finally, across two experiments (Study 3), we tested whether plausibility shaped the success of the interventions in bias reduction. Consistent to Study 2, we observed that plausibility was important for the success of the outgroup experience intervention, but not the ingroup norm one. Importantly, we observed a backfire effect of the outgroup intervention among the individuals who assessed it as implausible in the context charged with intergroup threat (Federation of Bosnia and Herzegovina).

We discuss the observed results in the context of social-identity approach to intergroup bias and offer recommendations for further testing application of social-identity interventions.

Keywords: intergroup bias, social identity theory, group identity, manipulation checks, plausibility checks, motivated reasoning

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Socijalnoidentitetske intervencije za redukciju međugrupnih pristrasnosti: sistematizacija i predlozi za unapređenje procedura

Sažetak

U fokusu ovog rada bile su socijalnoidentitetske intervencije za smanjenje međugrupnih pristrasnosti, preciznije, metodološke prakse koje se koriste pri testiranju ovih intervencija. Cilj nam je bio da sistematski pregledamo prakse korišćenja provera efikasnosti manipulacije (da li manipulacija utiče na konstrukt koji želimo njome da manipulišemo) i uverljivosti intervencija, a zatim da eksperimentalno testiramo kako individualne razlike oblikuju odnose između intervencije i njene uverljivosti, efikasnosti i uspešnosti.

U sistematskom pregledu literature (Studija 1), analizirali smo postojeće prakse provera manipulacije i uverljivosti u eksperimentalnim studijama koje ispituju efekte socijalnoidentitetskih intervencija. Posebnu pažnju obratili smo na učestalost upotrebe provera uverljivosti i efikasnosti manipulacije u ovim eksperimentima, kao i na njihovu ulogu u istraživanju, tj. da li se koriste kao kriterijum za isključenje učesnika iz analize efekata intervencija. Rezultati pokazuju da je upotreba provera efikasnosti manipulacije češća nego što je prethodno zabeleženo u socijalnopsihološkim eksperimentima. S druge strane, upotreba provera uverljivosti je izuzetno retka. Takođe, primećeno je da se ove vrste provera retko koriste kao kriterijum za isključenje.

Zatim smo kroz četiri eksperimenta (Studija 2) testirali dve varijante dualnoidentitetskih intervencija (podvrsta socijalnoidentitetskih intervencija) koje potiču iz paradigme „Grupa poveznica“ – jednu formulisanu iz perspektive nepripadničke grupe, a drugu iz perspektive pripadničke grupe. Poseban fokus bio je na razlikama između intervencija u pogledu njihove uverljivosti i efikasnosti u izazivanju percepcije dualnog identiteta manjinske grupe, kao i na odnosima između individualnih razlika u političkoj orijentaciji, etničkoj identifikaciji, zauzimanju perspektive drugih etnokulturnih grupa, opažanju međugrupne pretnje pretnje i kontaktu sa spoljnom grupom s jedne strane, i uverljvosti sadržaja intervencije i percepcije dualnog identiteta sa druge strane. Eksperimenti su sprovedeni u tri postkonfliktna konteksta: Srbiji, Federaciji Bosne i Hercegovine i Republici Srpskoj. Naši rezultati dosledno ukazuju na to da procenu uverljivosti oblikuju individualne razlike u opaženoj pretnji i preuzimanju perspektive. Kada je reč o razlikama između intervencija, primećeno je da procena uverljivosti moderira efikasnost intervencije formulisane iz perspektive nepripadničke grupe, dok ovakav efekat nije zabeležen kod intervencije formulisane iz perspektive pripadničke grupe. Ovaj efekat je bio posebno izražen u kontekstima koji su bili direktnije pogođeni nedavnim međugrupnim konfliktom (Federacija Bosne i Hercegovine, Republika Srpska), u poređenju sa Srbijom, gde je konflikt bio manje direktno prisutan.

Na kraju, kroz dva eksperimenta (Studija 3), testirali smo da li uverljivost oblikuje uspešnost intervencija u smanjenju pristrasnosti. Konzistentno sa nalazima Studije 2, primetili smo da je uverljivost važan faktor uspešnosti intervencije formulisane iz perspektive nepripadničke grupe, ali ne i intervencije formulisane iz perspektive pripadničke grupe. Značajno je napomenuti da je intervencija formulisana iz perspektive nepripadničke grupe imala kontraefekat u slučajevima kada je ocenjena kao neuverljiva, posebno u kontekstu u kom je opažena međugrupna pretnja snažnija (Federacija Bosne i Hercegovine).

Dobijene rezultate diskutovali smo u kontekstu socijalnoidentitetskog pristupa međugrupnim pristrasnostima i ponudili preporuke za dalja testiranja i primenu socijalnoidentitetskih intervencija.

Ključne reči: međugrupne pristrasnosti, teorija socijalnog identiteta, grupni identitet, provere efikasnosti manipulacije, provere uverljivosti, motivisano rezonovanje

Naučna oblast: Psihologija

Uža naučna oblast: Socijalna psihologija

UDK broj:

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1. Theoretical background: Social identity and intergroup relations

In a world divided across ethnic, national, and religious groups, each of them striving to be some kind of local or global leader, tensions between different groups are one of the manifestations of the race for power. On the psychological level, these tensions manifest as what we call intergroup bias – favoring the groups that we belong to (ingroups) over the groups we do not (outgroups) (Hewstone et al., 2002). Such ingroup favoritism maps onto different psychological functions as negative stereotypes (cognitive bias), prejudice (negative emotions towards outgroup members), and discrimination (hostile behavior against outgroup members). Notably, intergroup biases represent a widespread tendency, meaning that every single individual is prone to them. However, not everyone demonstrates the bias in each possible situation, which is why some authors label it as a general but not universal tendency (see Hewstone et al., 2002). Knowing that a) everyone is prone to intergroup bias, b) people do not express intergroup biases in every intergroup interaction, and c) intergroup bias can lead to hostile behaviors against the outgroup and deepen the existing conflict, psychologists have studied the sources of intergroup bias and the interventions of reducing it for over 70 years (Allport, 1954).

A number of theories to understand the nature of intergroup bias have been developed since then and were followed by empirical evidence of more or less successful interventions for bias reduction. They mainly differed in what they considered the main causes of intergroup biases. Whilst the early theorists viewed prejudice as a result of particular personality traits (Adorno et al., 1950), the focus was later shifted either onto the characteristic of the situation (Sherif & Sherif, 1979) or onto the group division itself (Tajfel & Turner, 1979). The former - *realistic conflict theory* - posits that conflicts between groups increase intergroup hostility and consequently increase prejudice. Despite its explanatory potential, realistic conflict theory was focused on *realistic conflicts* - conflicts over resources. However, groups can come into conflict over values as well, which is usually labelled as *symbolic conflict*. Importantly, a more recent Intergroup threat theory (Stephan et al., 2015) explained that the mere perception of conflicting goals or values can elicit intergroup bias. In fact, perceiving that an outgroup threatens an ingroup's resources (realistic threat) or values (symbolic threat) is enough to trigger biased behavior (Stephan et al., 2015). Therefore, realistic conflict theory was not comprehensive enough to explain intergroup bias in the absence of real conflict.

The other approach argues that the mere existence of groups fosters prejudice, so that prejudice can exist even when there is no conflict between the groups. This perspective, subsumed under the *social identity approach*, implies that intergroup bias can exist even when the groups are *minimal*, i.e., formed on the basis of an *ad hoc* criterion (e.g., students on the left/right side of the classroom). Such groups lack the important characteristics of social groups, such as group cohesion and structure. More importantly, they do not have any history, meaning that any realistic conflict between the groups cannot exist (Tajfel & Turner, 1979).

As the frameworks developed, it was clear that conflict over resources can boost prejudice but also that prejudice is alive and well among the groups that do not seem to be in conflict (see Ellemers & Haslam, 2012 for a review), indicating that this latter perspective is more comprehensive. Therefore, in this thesis, we will analyze intergroup bias using the social identity approach. After theoretical and methodological discussion of the interventions that use this approach to reduce intergroup bias, we will present a set of studies that contribute to a better understanding of methodological practices in this field.

Social identity approach to intergroup bias

During the 1970s, Henry Tajfel proposed the Social identity theory, defining social identity as a part of an individual's identity that is derived from their knowledge of being a member of a particular group (Tajfel, 1974). Group membership, according to Tajfel, does not only mean that a person knows that they belong to a group but also has an emotional significance that is attached to

this knowledge. In other words, by acknowledging that we belong to a particular group, we also have feelings related to that group belongingness. Tajfel proposed that social identity is a crucial driver of intergroup behavior, indicating that, in an intergroup setting, i.e. when group membership is made salient, people act as group members rather than as individuals (Tajfel, 1974). He also described social categorization as a natural process that occurs due to humans' need to systematize the world surrounding us. Thus, each human being belongs to many social categories (groups) and can derive their social identity from them. Importantly, Tajfel and Turner argued that people strive to achieve "positive social identity", i.e., to perceive their own ingroup (the group they belong to) in a positive way (Tajfel & Turner, 1985). However, positive social identity does not exist in a vacuum, but in relation to other social identities. This relational nature of social identity implies that some form of social comparison always exists and that an individual's ingroup must be evaluated as more positive than the outgroup, at least along one dimension of social comparison, in order to achieve a positive social identity. Consequently, individuals will favor their ingroup over the outgroup to achieve or maintain a positive social identity (Tajfel, 1982).

An important implication of social identity theory is that ingroup favoritism can happen even in the absence of conflict or tensions between the groups. In a series of experiments, Tajfel showed that individuals tend to favor their ingroup over an outgroup even in the *minimal group paradigm* – when the groups are created ad hoc and do not have any meaning to individuals' identities (see Tajfel & Turner, 1985). Since the minimal group paradigm automatically excluded any prior intergroup conflict as an explanation of ingroup favoritism, it was attributed to the human's natural tendency to achieve positive social identity (Tajfel, 1982; see also Diehl, 1990). Based on these findings, social identity theory (SIT) was proposed and further broadened into what we today call the social identity approach — a central framework for understanding intergroup bias.

Since it implies that ingroup favoritism exists regardless of intergroup conflict, SIT seems to be the best approach to study intergroup relations, especially between groups that are not conflicted in the present. SIT, of course, applies in conflicted societies as well, but it is also applicable in societies with or without recent conflict history (post-conflict and non-conflicted societies, respectively). It proposes and considers some fundamental characteristics of intergroup relations, such as 1) the social context of intergroup behavior, 2) the relevance of ingroup image on self-perception, and 3) group status and intergroup mobility. We will briefly explain each of these characteristics and further look into some later theories that extend SIT and make the whole social identity approach more comprehensive.

Social context of intergroup behavior

The social context of intergroup behavior indicates that individuals almost always act as members of their ingroups, especially when it comes to group-related behavior. In fact, Tajfel and Turner (1985) argued that our behavior is rarely entirely interpersonal, i.e., that the interaction between individuals does not happen in a vacuum but is moderated by our group membership to some extent. This means that individuals bring their various group memberships into each interpersonal interaction, making them intergroup. On the other hand, completely intergroup interactions also occur infrequently, for example, when an individual is a representative of their ingroup in a negotiation process. Therefore, almost all human social behaviors fall somewhere between these two extremes. At the same time, some group memberships are more important than others in a particular situation (Tajfel & Turner, 1985).

Two concepts are central for understanding intergroup interactions: social identity salience and strength of ingroup identification (social identity centrality). Social identity salience (or categorization salience) is the importance of a particular social categorization to interpret and navigate a given situation (Haslam et al., 1997). Although every single individual is a member of many social groups and thus holds an abundance of social identities, not all these identities will be relevant in every situation. In fact, only a few of them will be relevant and, therefore, salient in a particular situation. The more salient a specific social categorization (and thus a specific identity), the closer an

individual's behavior will be to the intergroup (versus interpersonal) extreme (Haslam, 2011). Some interventions for intergroup bias reduction use the salience of particular social categories to make individuals think about, for example, a social identity that they share with the outgroup members (Crisp & Hewstone, 2007; Gaertner & Dovidio, 2012), making this concept crucial for the field. We will discuss it in more detail later in the overview of the Self-categorization theory, as well as in the analysis of the existing models of bias reduction.

Unlike social identity salience, which is a characteristic of a situation, ingroup identification is a characteristic of an individual. It refers to the extent to which an individual feels that the ingroup identity is an essential part of their personal identity (Tropp & Wright, 2001). The more central place an ingroup takes in one's personal identity, the more expressed it will be in social interactions (Espinosa et al., 2018), and individuals who identify strongly with their ingroup will typically express more prejudice towards relevant outgroups (Aberson et al., 2000; Ninković, 2020). Here, ingroup identification serves as a motivator in that it motivates individuals to perceive that particular group as positive and clearly distinct from the other groups, i.e., to preserve a positive social identity (Crisp & Beck, 2005). Therefore, individuals who find a particular group membership essential to their identity are more likely to be resistant to interventions that aim at reducing intergroup bias (Crisp & Beck, 2005).

Relevance of ingroup membership on self-perception

We already mentioned that individuals strive to achieve a positive social identity since each group membership partly defines who we are and is, therefore, relevant to how we perceive ourselves (Tajfel & Turner, 1985). This means that a positive perception of one's ingroup contributes to a positive self-image as a whole and vice versa. The positive image is always relational: the ingroup must be compared to some other group (outgroup) on a relevant comparison dimension.

However, only some social identities and only some dimensions of comparison are relevant in a particular intergroup situation. The relevance of social identities depends on their salience: for example, in a basketball World Cup, the nationality of the team is essential, but affiliation with a particular basketball club is not. Further, the most important dimension of comparison is the performance of a national team, whilst it does not really matter whether the members of a particular team are more handsome than the others. If our team wins, it will contribute to our positive perception of a whole nation and, therefore, of ourselves. But what happens if our team loses? The positive image of our ingroup, and therefore of self, gets disturbed, and there is a need to repair it. In terms of SIT, group status lowers, and there is a need to cope with the novel lower status. Moreover, social hierarchies imply that some groups have a long-lasting high status, whereas others' status is low and relatively unlikely to change. Some groups are given more privileges than others which makes the difference in their status permanent. For example, members of the ethnic majority in a country typically enjoy higher status than ethnic minority members. Thus, constant comparison between groups can result in devaluation of a minority's identity, as it is regularly compared to a higher-status group. As a consequence, minority group members can feel that their social identity is unsatisfactory, or even stigmatized (see Leach & Smith, 2006), and therefore feel the need to restore or achieve a positive social identity. SIT proposes a few strategies that members of temporarily or permanently disadvantaged groups can use to cope with low group status.

Group status and intergroup mobility

The need to overcome lower group status drives its members to some kind of cognitive action. Depending on the overall importance of a particular social identity and the feasibility of different actions, individuals can choose from a few action categories that aim to restore a positive social identity (Tajfel & Turner, 1985). First of all, they can try to disidentify from the lower-status group, which would make the group status irrelevant to their overall self-image. Also, they can try to change their group belonging and become members of a higher-status group. However, neither disidentification nor group replacement necessarily changes the fact that the others would still

perceive them as part of their initial group, especially when groups have clear visual markers (e.g., race). Thus, to restore a positive group image, individuals can turn to the strategies that include some form of action – what Tajfel and Turner (1985) call *social creativity* and *social competition.*

Social creativity implies redefining social comparison in a way that our group regains positive status. Following the example of basketball teams, the losing team members can shift their focus from the overall result to some more particular one, where their ingroup was better (e.g., the number of three-pointers). Further, they can give a novel value to their position (*silver that shines like gold*). Finally, they can select another outgroup to compare to and frame their silver medal as a tremendous overall placement. When it comes to social competition, they might seek a rematch and try to win it.

Although all these strategies were initially proposed by SIT, their real-life potentials and shortcomings cannot be fully comprehended by the concept of social identity alone, especially when it comes to large groups such as ethnicity, nationality, race, religion, or social class. Furthermore, SIT does not clearly describe the factors determining whether our behavior will be closer to the interpersonal or intergroup extreme of the continuum of social behavior. To extend the social identity approach in terms of cognitive processes associated with intergroup behavior, Turner proposed a novel Self-categorization theory (Tajfel & Turner, 1985; Turner & Reynolds, 2012).

Self-categorization theory

Whilst SIT mostly focuses on the motivational aspect of ingroup favoritism and is thus labeled the social identity theory *of intergroup behavior*, the central aspects of Self-categorization theory relate to cognitive processes that make an individual's perception of themselves as group members. That is why it is sometimes named *the social identity theory of the group* (Turner et al., 1987). Self-categorization theory (SCT) was developed to answer the questions relevant to group behavior that SIT did not consider. Namely, the authors tried to understand 1) what is the relation between personal and social identity, 2) why, in a particular situation, a particular group membership becomes salient, 3) what happens in an individual's inner world when they define themselves in terms of a particular social category; 4) how identification with the group drives an individual to behave as a member of that group (Haslam, 2011).

According to Turner and colleagues (1987), an individual's social self-concept is hierarchically organized. Personal identity is the lowest level of self-categorization based on one's differences from others and thus includes a set of personality characteristics and other individual differences that are unique to that individual. Simply, personal identity is what makes a person an individual. On a higher – intermediate – level of abstraction, there is a variety of ingroup-outgroup categorizations that define an individual as a member of specific social groups (e.g., "women", "psychologists", "leftists", etc.). It incorporates categorizations that themselves differ regarding their level of abstraction – for example, the category "psychologist" is encompassed by the category "social scientists". This level is where the intergroup behavior happens, and it is in the focus of SCT. The hierarchical structure of the group categorizations on this level means that some of them are more encompassing than others (Turner et al., 1987). For example, a person can identify as a citizen of Belgrade, and that categorization will, *per se*, be encompassed by the category of citizens of Serbia. The hierarchical structure of the intermediate categorization is present in the Common ingroup identity model of intergroup bias reduction (Gaertner et al., 1993), which we will discuss in detail in the section about the interventions for the reduction of intergroup bias. Finally, the highest level is the most comprehensive and comprises categorizing oneself as a human being.

Importantly, as the authors suggest, all these categorizations exist simultaneously in an individual's self-concept. However, particular situations elicit specific group memberships from the intermediate level and make them more salient than the others. Whether a particular categorization will become salient or not depends mostly on its relevance for a specific situation that the author names *fit*. Let us say, for example, that there are two groups of researchers at a psychological conference, some of whom are women and some are men. Let us also say that half of them come from

Serbia and the rest are from Croatia. In this particular situation, there are three possible categorizations that can be salient: a) professional affiliation, b) nationality, c) gender. Since all of them are psychologists, the first categorization does not make any intergroup difference and lets them remain "individuals", i.e., highlights their interpersonal (intragroup) differences. However, whether nationality or gender will become more prominent would depend on the topic of their conversation. If they discuss national politics or the success of national teams at the basketball World Cup, it will not matter whether they are men or women, but their nationality will matter. Thus, in this situation, their national identity will become more salient, and each of them will see themselves and each other person either as a citizen of Serbia or Croatia. If, on the other hand, they talk about gender issues, it is more likely that they will perceive themselves in terms of gender, i.e., as women or men. In terms of SCT, we would say that the *comparative fit* of nationality would be higher in the first situation, whilst the comparative fit of gender would be higher in the second. Comparative fit is, therefore, a characteristic of a particular categorization that emphasizes intergroup differences over interpersonal ones (Oakes et al., 1991). In terms of the reduction of intergroup bias, comparative fit is implicitly present in the interventions that rely on the crossed categorization model (Crisp & Hewstone, 2007) that we will discuss in more detail later.

The other aspect of fit is *normative fit* – a representation of attitudes and behaviors that are typical for the members of a particular group (Oakes et al., 1991). It denotes the degree to which a person's behavior is similar to a stereotypical group member and thus helps us choose which categorization we should use. Let us use the previous example and say that our characters decided to rent a car and visit a neighboring village on a conference day off and let us say that a woman from Serbia drives a car, and her tire goes flat. If someone wants to blame her for the flat tire, it would be much more appropriate, in terms of stereotypes, to attribute this bad luck to her gender (*it happened because she is a woman*) than to her nationality (*it happened because she is a Serb*). In other words, one categorization will be much more likely to become salient than another due to the stereotypical characteristics of group members.

The notion of normative fit leads us to the next question regarding self-categorization: what happens with our mental representation of ourselves when we define ourselves in terms of group membership? When ingroup-outgroup categorization is salient, the perceived difference between self and ingroup members decreases (Turner et al., 1987). The salience of a particular categorization evokes the psychological process of *depersonalization* or *self-stereotyping* – describing oneself in terms of the relevant ingroup stereotypes. A self becomes perceived as interchangeable with the other ingroup members, and this happens especially for the individuals who strongly identify with the ingroup (Haslam, 2011). The personal level of identity becomes less important, and the key characteristics of an individual become the ones that are stereotypical for the ingroup, meaning that the particular social identity becomes the core of self-perception at the given moment. The same happens to the perception of outgroup members: instead of perceiving them as individuals, we depersonalize them and act as if they are stereotypical members of their group (Hogg, 2001). This shift in the perception of self and others is necessary for the group behavior to occur (Turner et al., 1987).

Importantly, depersonalization does not only mean that individuals perceive themselves in terms of group membership. It also means that their behavior tends to be as prototypical for the group as possible, i.e., that they tend to stick to the ingroup norms (Hogg, 2001). The same is true for attitudes and beliefs, at least those that an individual expresses explicitly. More precisely, following the depersonalization process, an individual would tend to express the attitudes that are typical for the group as a whole. For example, if group A derogates group B, members of the group A would express negative attitudes towards the members of the group B, even if they personally do not have anything against the group B. Such expression of group-prototypical attitudes serves the need for being as close to the prototype as possible. Of course, this need is not uniform across individuals and groups, and it depends on many factors on individual and group level. One such factor is strength of group identification. Individuals who are strongly identified with their ingroup are more likely to

consider themselves as typical ingroup members and to perceive that they share beliefs with the other members (Tropp & Wright, 2001).

The effect of group identification on self-stereotyping is especially emphasized when the group is perceived to be under threat, in that high group identifiers typically use self-stereotyping as an answer to intergroup threat (Spears et al., 1997), especially in low-status groups (Latrofa et al., 2012). As we mentioned earlier, two most broadly studied types of intergroup threats are *realistic*, such as threats to group resources, and *symbolic*, such as threats to group values (Stephan et al., 2015). However, a distinct type of threat can occur when a person feels that their particular identity is threatened - *distinctiveness threat*. It occurs when a group that an individual belongs to is not recognized as a group, or when its distinctiveness is disputed (Branscombe et al., 1999) (Branscombe et al., 1999). For example, after the dissolution of Yugoslavia, each ethnic group strived to strengthen their distinctiveness by highlighting their unique language and cultural heritage. Questioning them, e.g., by claiming that Serbian and Croatian are the same language, was a typical example of distinctiveness threat. Here, this type of threat is important because it typically increases self-stereotyping and perception of a group as more homogeneous than it actually is (Branscombe et al., 1999). This process is elaborated in the *Optimal distinctiveness theory* (Brewer, 1991).

Optimal distinctiveness theory

While SIT aimed to explain the basis of intergroup behavior and motivation that underlies intergroup bias, and SCT further enriched the knowledge on the cognitive basis of group behavior, Optimal distinctiveness theory (ODT) was developed to further elaborate how humans negotiate between different levels of identification (Brewer, 2012). The author starts from the position that human beings have two conflicting needs at the same time: the need for validation and similarity to others (assimilation) and the need for uniqueness (differentiation; Brewer, 1991). Social identity, she argues, is the compromise between the two competing needs since it fulfills them both: identification with the group gives the sense of belonging, whilst knowledge of other outgroups, and further comparison with them, fulfill the need for differentiation from others. This idea is similar to the idea of comparative fit, elaborated within SCT (Oakes et al., 1991). However, whilst comparative fit refers to choosing the categorization that fits the situation in terms of its content and position in the hierarchy of social identities, Brewer (1991) elaborated that the *optimal* social identity is the one that fulfills the needs for assimilation and differentiation. In other words, *optimal* in SCT terms means *optimal for comparison in a particular social situation*, while in ODT optimal identity is the one that satisfies basic human's needs.

Importantly, ODT takes into account the relative group size, giving the ground for understanding some specificities of identification with majority and minority groups. The theory predicts that individuals would prefer to identify with minority groups over the majority ones since it satisfies their need for distinctiveness (Brewer, 1991), and there is empirical support for this hypothesis (e.g., Badea et al., 2010; Leonardelli & Loyd, 2016). This has significant implications for the interventions for intergroup bias reduction: ODT implies, and empirical studies confirm that members of minority groups would be less likely to adopt higher-order social identities since it can pose a threat to their distinctiveness (Dovidio et al., 2007). The difference between majority and minority groups in their willingness to adopt a more inclusive social categorization is elaborated within the extension of the Common ingroup identity model of intergroup bias reduction, called the Dual identity model (Dovidio et al., 2007), which will be elaborated in the detail later.

The concept of optimal distinctiveness is also implicitly present in acculturation strategies - the ways individuals of immigrant or mixed ethnic origin use to adapt to the majority culture (Berry, 1997). Berry (1997) argued that such individuals have to negotiate between keeping their original cultural practices, norms, and values, and adopting the majority ones. An optimal strategy, he argues, is *integration* - simultaneous acceptance and positive evaluation of the host culture and maintenance and appreciation of the culture of origin. Such integrated identities can be described as *optimally*

distinctive for the individuals that hold them: whilst they are identified with the host culture and perceived as its members, their cultural background is still an important part of their identity.

These complex identities allow individuals to identify with members of multiple groups. For example, integrated ethnic minority members would identify with their ethnic group, but also with the majority group in their country. That kind of multiple social categorizations would mean that they have more ingroup members compared to individuals who chose to stay loyal exclusively to the minority cultural practices, or those who chose to discard their minority identity and assimilate with the majority. Individuals who hold such complex identities have been shown to have more positive attitudes towards racial outgroups (Miller et al., 2009) and higher outgroup tolerance (Brewer & Pierce, 2005, but see also Branković et al., 2016). Moreover, immigrants who have more complex ethnic and religious identities have been more likely to identify with the national majority group and to have a more positive attitude towards the host nation (Verkuyten & Martinovic, 2012).

This is why such bicultural individuals (well-integrated immigrants, members of an autochthonous ethnic minority, or people of multiple ethnic origins) have been considered potential promoters of positive intergroup relations (Levy, Saguy, Halperin, et al., 2017). Research has confirmed this hypothesis, indicating that biculturals can act as a bridge between the two groups they represent, which is why they are often labeled as members of *gateway groups* (Levy, Saguy, Van Zomeren, et al., 2017). The interventions for the reduction of intergroup bias that use the potential of gateway groups to act as a between-group bridge (Levy, Saguy, Van Zomeren, et al., 2017; Levy, Žeželj, et al., 2019; Ninković & Žeželj, 2022) partly rely on and extend the Dual identity model of bias reduction (Dovidio et al., 2007) that will be described and discussed in detail in the next chapter.

Social identity approach to intergroup relations: final considerations

In this chapter, we described the social identity approach to intergroup relations and bias reduction. We elaborated on theories that fall under the social identity approach: Social identity theory, Self-categorization theory, and Optimal distinctiveness theory. We also mentioned how some particular concepts developed within this theoretical framework can be utilized in interventions that aim at reducing intergroup bias. These theories are not the only ones under the umbrella of the social identity approach but are essential to the interventions that we will focus on in the next chapter.

2. Social-identity approach to intergroup bias reduction

Ingroup favoritism, as a basis of intergroup bias, represents a systematic and spontaneous tendency of human beings to favor their ingroup over the relevant outgroup (Hewstone et al., 2002). As we discussed in the previous chapter, ingroup favoritism is mostly driven by our need to have a positive image of our ingroup: to be able to draw self-esteem from our social identity, group memberships that build the social identity have to be perceived as positive. Therefore, ingroup favoritism happens spontaneously, and some studies even suggest that it is a result of automatic processes that are out of our conscious control (Castelli et al., 2008; Telzer et al., 2015). Thus, only putting conscious efforts to behave in an egalitarian, unbiased manner will not eliminate ingroup favoritism. This is why, according to the social identity approach, to reduce the intergroup bias one needs to redefine the group boundaries.

How can we utilize the social identity approach to reduce bias in a typical intergroup setting? We have already mentioned that reconsideration of group boundaries is a key factor in bias reduction within this approach. Psychologically, this means that a person has to reorganize the mental representations of in- and outgroup, which should lead either to lower identification with the ingroup or to some form of inclusion of the outgroup members within the boundaries of the ingroup identity. So far, four broad models of redrawing group boundaries in order to reduce the bias have been put forward and empirically tested: *Decategorization, Crossed categorization, Common ingroup identity,* and *Dual identity*.

Models for the reduction of intergroup bias

Decategorization model

This model draws its mechanism from Allport's (1954) contact hypothesis. According to Allport (1954), interpersonal contact between the members of two groups, under appropriate conditions, is the best way to reduce prejudice. He argued that optimal conditions for contact between the members of two conflicted groups are 1. equal status (the individuals' status in a given situation has to be equal, regardless of the relative status of their groups), 2. common goals of the two individuals in a given situation (regardless of the goals of the groups they belong to), 3. cooperation (the individuals need to cooperate in a given situation), and 4. institutional support for egalitarian norms (Allport, 1954; see also Pettigrew, 1998). However, as we described earlier, social-identity theorists argued that, in an intergroup context, group membership is more salient than individual differences, and thus, that we depersonalize ourselves and outgroup members (Tajfel & Turner, 1985). Therefore, the idea behind decategorization is to bring the contact closer to the interpersonal context so that the members of two groups can perceive each other as *individuals* rather than *group members*. There, if all Allport's conditions for positive contact are satisfied, such interaction should reduce these individuals' intergroup bias (Brewer & Miller, 1984).

The authors propose two processes that occur during decategorized contact. First, the process of *differentiation* refers to an effort not to perceive an outgroup as homogenous but rather to see that there are individual differences between its members. On the other hand, the process of *personalization* represents the perception of an outgroup member as an individual rather than a group member, meaning that their personal characteristics are more salient than the group membership. The idea behind the personalization process is that once we perceive an outgroup member as an individual with all their personality traits, beliefs, and social roles, we should find many overlaps with our own traits, beliefs, and roles, which would further facilitate the positive contact (Brewer & Miller, 1984).

This model is empirically supported by early correlational and experimental research (see Brewer & Gaertner, 2001 for a review). More recent meta-analytic results indicate that the number of cross-group friendships is positively related to outgroup attitudes (Davies et al., 2011), which is in line with the decategorization model. Similarly, meta-analyses of the Contact hypothesis indicate that individuals who have past experiences of direct (Pettigrew & Tropp, 2006) or vicarious contact with

outgroup members (Zhou et al., 2019) are more likely to have a positive attitude towards that outgroup.

However, the contact between individuals from different social groups is always moderated by a variety of social factors. For instance, there is evidence that contact with an individual who disconfirms stereotypes about the outgroup (an atypical exemplar) can be difficult to generalize to the whole outgroup (Richeson & Trawalter, 2005). Furthermore, a recent meta-analysis revealed that the effect of contact on prejudice differs with regard to type of groups in focus (Paluck et al., 2019). In fact, the authors showed that contact has much weaker effect on prejudice towards racial or ethnic outgroups towards other types of outgroups (e.g., disabled people), which limits the real-world applicability of contact interventions (Paluck et al., 2019). Finally, meta-analytic evidence suggests that the effects of contact vary with the degree of cultural egalitarianism: the more egalitarian the culture, the stronger negative relation between contact and prejudice (Kende et al., 2018). Additionally, almost all studies of contact-prejudice relationship confirm the contact hypothesis, BUT they rarely test the underlying mechanisms. Although there is meta-analytic evidence that contact reduces intergroup anxiety and promotes empathy and knowledge about outgroup, which, in turn, reduces prejudice (Pettigrew & Tropp, 2008), the identity-related processes that underlie contact-prejudice relation are underresearched.

In sum, the available empirical evidence indicates that the decategorization model can be effective but that there are multiple pitfalls when employing it. The major obstacle of this model seems to lie in its idea that neglecting the group membership should somehow foster the generalization of positive contact with the whole outgroup. The literature on multiculturalism also suggests that it is much more effective to take group differences into account than to ignore them (see Plaut et al., 2018 for a review). In fact, the color-blind approach to intergroup relations can obscure the systemic differences in the treatment of minority vs majority groups, and further reinforce them (Guimond et al., 2014). Moreover, whilst positive intergroup contact reduces bias among majority members, it can elicit the *irony of harmony* effect in minority members - prevent them from noticing systemic inequalities and standing up for their rights (Hässler et al., 2020; Saguy et al., 2016). Finally, a decategorized approach can elicit identity threats among minority group members and prevent them from achieving an *optimal* social identity according to the Optimal distinctiveness theory (Brewer, 2012). Therefore, the other social identity-based models can complement it and give deeper insights into social-identity processes that underlie bias reduction.

Crossed categorization model

Crossed categorization model employs multiple social categorizations on the same level of inclusiveness (Crisp & Hewstone, 2007) by making multiple social categorizations simultaneously salient. The same level of inclusiveness of two categorizations means that they are orthogonal – the two categorizations overlap in a non-nested manner, i.e., neither of them is superordinate to another. Let us use the previous example of a hypothetical situation where men and women of Serbian and Croatian nationalities are participating in a psychological conference. Here, categorizing oneself in terms of both gender *and* nationality should make both these categorizations salient and thus allow the person to perceive more people as ingroup members. For a woman from Serbia, everyone from Serbia (women and men) *and* all women (from Serbia and Croatia) would then be perceived as ingroup members. On the contrary, categorizing oneself in terms of either gender *or* nationality would reduce the number of ingroup members in the salient categorization. Therefore, making multiple categorizations simultaneously salient should increase the number of people who are perceived as ingroup members and therefore reduce the intergroup bias (Crisp & Hewstone, 2007).

Contrary to the Decategorization model, crossed categorization does not neglect the fact that every human being belongs to many social groups and thus draws their social identity from them. Instead, this model is much closer to our everyday experiences of group membership thus the interventions based on it are much more plausible. Crossed-categorization model is based on the weakening of category differentiation: when only one categorization is salient, the differences

between groups are prominent; conversely, the salience of more categorizations weakens category differentiation. However, blurring intergroup boundaries should not be confounded with the neglect of their existence assumed by the Decategorization model. Whilst Decategorization suggests that we should think about ourselves and others only in interindividual (vs. intergroup) terms, Crossed categorization implies that the more groups we identify with, the more likely we will perceive others as ingroup members (see Crisp & Hewstone, 2007 for a review).

Which categorization will be salient at a particular moment depends on the relative importance of group memberships and their fit. In a real-life situation, the dimensions of categorization that have the highest comparative fit become the most salient (Oakes et al., 1991). In other words, we choose to compare to the others on the ingroup-outgroup dimensions that make the most sense in a particular context. This means that it is necessary to have more than one salient category in a particular situation for the crossed categorization to make a difference in intergroup bias. Additionally, whether the particular ingroup-outgroup dimension will be available for use and how it will reflect on intergroup bias depends on the relative individual importance of that particular categorization (Urada et al., 2007). For example, in a gender x nationality crossed categorization, there are four possible combinations: 1) double ingroup member (ingroup-ingroup, II), 2) gender ingroup – national outgroup member (ingroup-outgroup, IO), 3) gender outgroup – national ingroup member (outgroup-ingroup, OI), 4) double outgroup member (outgroup-outgroup, OO). While II and OO are complete ingroup/outgroup members, IO and OI are partial ingroup members, and thus, they are those towards whom we can reduce the bias. However, whether the IO and OI would be treated as ingroup or outgroup members depends on the relative importance of each of the categorization dimensions. For a person who finds gender identification highly important but does not care much about national identity, there is a much higher probability to perceive a gender ingroup – national outgroup member as an ingroup member; conversely, they would probably perceive a gender outgroup member as an outgroup member, despite their shared national identity. The differences in the pattern of how we perceive partial ingroup members are operationalized as different *models* of crossed categorization (Migdal et al., 1998).

These models seem to be the most studied aspect of crossed categorization; however, they are often explored in a reductionist manner, by using simple mathematical operations to describe complex social identities (see Nicolas et al., 2017). Although making people aware of multiple group membership seems to be a more plausible way of bias reduction, compared to the Decategorization model, studies rarely go beyond the description of categorization patterns, rarely offering specific strategies or interventions for bias reduction (see Nicolas et al., 2017 for a review). Therefore, the other two models that consider multiple social categorizations, but in a different way (The common ingroup identity model and Dual identity model) have stronger empirical support and thus are more applicable to real-world interventions.

Common ingroup identity model

Similar to the Crossed-categorization model, the Common ingroup identity model (CIIM; also known as the Re-categorization strategy; Gaertner et al., 1993) starts from the fact individuals belong to multiple social groups. However, CIIM represents multiple social categorizations on the different levels of inclusiveness: typically, it imposes a superordinate category that encompasses both in- and outgroups. In other words, CIIM relies on the hierarchical structure of social categories proposed by Turner and colleagues (1987): a person A can be a citizen of Belgrade, and a person B a citizen of Novi Sad, which represents a typical ingroup-outgroup setting and can elicit intergroup bias; however, when we make a superordinate category – citizens of Serbia – salient enough, they should begin to perceive themselves as members of the same group. In turn, intergroup bias should be reduced, given that both A and B are the members of the same superordinate group.

This model takes into account the basic premise of the Social identity approach – that ingroup favoritism is rooted in social categorization itself (Tajfel & Turner, 1985). Therefore, the authors of CIIM proposed that imposing a superordinate category, which encompasses both in- and outgroups,

should reduce the intergroup bias; in other words, replacing the cognitive representation of two distinct groups with a representation of a single superordinate group should be effective in bias reduction (Gaertner et al., 1993). The initial empirical evidence supports this thesis. In the early experiments, Gaertner and colleagues (1989) tested how recategorization and decategorization influence intergroup bias in comparison to a control condition with two separate groups. The results showed that both recategorization and decategorization reduced the bias but that the processes that underlie the two strategies differed. Imposing a superordinate identity to participants who were previously divided into two groups decreased the bias towards the initial outgroup members (compared to the control condition); moreover, the decrease in bias was a result of a more positive perception of the outgroup members. On the contrary, reduced bias in the decategorization condition was a result of less positive perception of the ingroup members (Gaertner et al., 1989). Therefore, although both strategies reduced the bias, the process that underlies recategorization seems to be more in line with the usual preference for the ingroup over the outgroup. The authors argue that once a superordinate identity is made salient, outgroup members become perceived as ingroup members (Gaertner et al., 1993; Gaertner & Dovidio, 2012). In other words, mental representation of the outgroup changes upon recategorization: individuals become more empathetic towards the former outgroup members, perceive them as less threatening and more similar to themselves, and show higher trust (Dovidio et al., 2007). A vast body of empirical research confirmed that such redefinition of group boundaries is beneficial for intergroup bias reduction (see Dovidio et al., 2007 for a review).

However, studies that indicated unambiguous benefits of recategorization were usually focused on majority (or higher-status / advantaged) groups whose members decreased the bias towards a relevant minority (or lower-status / disadvantaged) group (Dovidio et al., 2007; Noor et al., 2010). But what happens when the members of groups of lower status or with a history of victimization are encouraged to accept the higher-order identity that also includes the advantaged group (the one of higher status or with a perpetrator history)? Whilst there is some evidence that recategorization successfully reduces bias among groups of different status, or with the history of conflict (Noor et al., 2008; Wohl & Branscombe, 2005), other studies indicated that the pattern of ingroup favoritism/outgroup derogation upon recategorization differs between disadvantaged and advantaged groups (González & Brown, 2003; Noor et al., 2010). In fact, empirical evidence suggests that members of disadvantaged groups do not favor recategorization to the same extent as the members of advantaged groups (see Gaertner & Dovidio, 2012 for a review). Imposing a higher-order category can be threatening to minority group members' identity, in that the superordinate category might not be *optimally distinctive*, as suggested by Optimal distinctiveness theory (Brewer, 1991). Insisting on the adoption of the superordinate identity might look like an imperative of assimilation with the majority group that threatens to erase the distinctive characteristics of cultural minorities (Brown & Zagefka, 2011). Furthermore, there is evidence that, rather than erasing subordinate categorization in favor of a superordinate one, individuals prefer to have their subordinate group identities preserved, i.e., to be dually identified with both sub- and superordinate categories (Hornsey & Hogg, 2000). Therefore, as extensions of CIMM, the *Dual identity model* was proposed as a more efficient and more generalizable way of intergroup bias reduction.

Dual identity model

Similar to CIMM, the Dual identity model implies a re-definition of group boundaries by imposing a superordinate category that encompasses both in- and outgroups. However, unlike CIMM, this model suggests that the initial group boundaries should not be erased but that both sub- and superordinate categories should be salient in order to reduce the bias (Gaertner et al., 2000). Thus, this model takes into account the premise of Contact theory that, to be generalizable to the whole outgroup, contact has to be *intergroup* in its nature instead of *interpersonal* (as in decategorization) or *intragroup* (as in recategorization; Brown & Hewstone, 2005).

The dual identity model drew from the experiments that tested CIIM on the relations between groups of different status (Gaertner et al., 1999; Hornsey & Hogg, 2000). These experiments indicated

that recategorization is the most beneficial when 1) a superordinate identity is imposed and 2) groups are allowed to keep their initial group identities salient at the same time. In other words, unlike CIIM, the Dual identity model allows groups to maintain their distinctive identities while at the same time identifying with the superordinate group that encompasses both of them (González & Brown, 2003). Thus, it overcomes the major pitfalls that CIIM faces, especially among minority groups: a potential backlash of the imposed superordinate identification that might result in identity threat and a request for assimilation with the majority that is implicitly present in the idea of superordinate categorization (González & Brown, 2003). Moreover, it was shown to generalize beyond the particular situation (González & Brown, 2006), indicating its relevance to real-life situations outside the experimental setting.

Further research confirmed the benefits of dual identity strategy (over recategorization) for members of minority groups. For example, Glasford and Dovidio (2011) found that, after reading a report that simultaneously emphasized particular racial/ethnic identities AND a superordinate American identity (dual identity condition), members of racial minorities in the USA were more willing to engage in contact with Whites (majority group), compared to those who read a report that only underlined American identity (one-group condition). This effect was mediated by the perception of the shared values: minority members in the dual identity condition perceived that all Americans share the same values to a greater extent than those in the one-group condition; in turn, their willingness to engage in contact with the majority group was higher (Glasford & Dovidio, 2011). Furthermore, it was shown that simultaneous emphasizing of the racial minority (Black or Latino) and national (American) identities was beneficial for racial minorities in that it did not prevent their intentions for the collective action in favor of their minority group, in comparison to the condition where only American identity was salient (Ufkes et al., 2016). Finally, real-life benefits of the dual identity strategy were confirmed in a classroom setting, where Black (minority) students whose dual identity (Black and British) was affirmed outperformed on the cognitive ability task their Black peers whose a) superordinate (British) or b) individual identity was affirmed (Celeste et al., 2021). Significantly lower stereotype threat in dual identity conditions partially underlined this effect, which is in line with the idea that minority group members would have an overall more positive reaction to the imposition of superordinate identity when they are allowed to maintain their minority group identification (Gaertner et al., 2000; González & Brown, 2003, 2006).

Differences between majority and minority groups in their preference for one-group or dual identity strategies are reflected in the real-life preference for different acculturation strategies as well. Acculturation strategies represent attitudes and cultural practices that people manifest in intercultural encounters (Berry, 2006). Berry's two-dimensional model of these strategies encompasses two major issues of interaction between majority (host) and minority (immigrant) groups: 1) cultural maintenance – the extent to which a person thinks practices of the heritage culture should be maintained, and 2) contact and participation – the extent to which minority group members should be involved in the host society. In terms of social-identity strategies, recategorization would reflect *assimilation* – low cultural maintenance and high contact and participation – that is, erasing the boundary between minority and majority by neglecting the minority's culture of origin. Here, a superordinate identity (citizens of a country, or members of a society) is unquestionably charged with the characteristics of the majority ethnic group. Thus, from the minority group's perspective, accepting such superordinate identity would imply neglecting their culture of origin. On the other hand, dual identity would reflect *integration* – high cultural maintenance AND contact and participation – keeping the boundary between the practices of two cultures but integrating them in a wider context of the host society. Empirical studies have shown that, in general, members of the host society prefer assimilation over integration (Verkuyten, 2006; Verkuyten et al., 2014), which would reflect a preference for recategorization. On the contrary, integration is not only clearly preferred by minority relations (Pfafferott & Brown, 2006), but research also shows that it has multiple benefits in terms of minority members' adaptation and well-being (Nguyen & Benet-Martínez, 2013), similarly to dual identity endorsement.

It is, therefore, clear that real-life acculturation strategies mirror social-identity models for intergroup bias reduction and that they share (at least some) underlying processes. Nevertheless, a large portion of these interventions have been built on the foundation of these social-identity models or at least employed some of their underlying principles. We will refer to them as *social-identity interventions*.

Social-identity interventions for intergroup bias reduction

After the benefits of recategorization and dual identity were empirically confirmed, studies of social-identity interventions branched into two broad categories (Blaylock et al., 2024)[1]. A larger group relies on encouraging multiple social identification (Banfield & Dovidio, 2013; Brochu et al., 2020; Fritzlen et al., 2020; Greenaway et al., 2012; Ufkes et al., 2016). Namely, these interventions represent further applications of CIIM and the Dual identity model or serve for the testing of their underlying processes and boundary conditions. Another group explores the potential of individuals or groups with complex identities (such as gateway groups) or inclusive ones to facilitate intergroup bias reduction (Đorđević, 2020; Levy et al., 2023; Levy, Halperin, et al., 2019; Levy, Saguy, Van Zomeren, et al., 2017; Levy, Žeželj, et al., 2019; Ninković & Žeželj, 2022). Here we focus on the second group, since the interventions that utilize the potential of groups with complex identities to reduce the intergroup bias will be the focus of the empirical part of this thesis.

The role of gateway groups in intergroup bias reduction

The idea that *groups* with complex social identities might act as a bridge between two adversarial groups was drawn from studies that focused on *individuals* who hold such identities (Levy, Saguy, Halperin, et al., 2017). A body of empirical evidence (see Nguyen & Benet- Martínez (2013) for a meta-analysis) has shown that holding such identities (e.g., among immigrants who identify with both host and heritage cultures; individuals from ethnically diverse marriages) has numerous benefits over holding simple identities (e.g., identifying only with heritage culture). Thus, a logical next step was to explore whether groups that have complex social identities can act as a gateway between the two groups they represent.

The idea behind this *Gateway group hypothesis* was that if a group is portrayed as having a complex social identity (e.g., bi-racials in the USA who were portrayed as feeling simultaneously as Whites and Blacks), it can act as a bridge between the two adversarial groups represented within the complex identity (Whites and Blacks). The proposed mechanism that underlies the gateway effect is as follows: the presence of dually identified individuals (biracials) among majority ingroup (Whites) and minority outgroup members (Blacks) reduces Whites' perception of threat, which then generalizes into overall lower levels of racism (Levy, Halperin, et al., 2019). It was hypothesized and confirmed that the existence of the *ingroup component* in the gateway group's identity makes it closer to the ingroup. This, in turn, promotes a more positive perception of the *outgroup component* of the gateway group's identity – the one it shares with the adversarial outgroup – that generalizes on the attitude towards the outgroup as a whole (Levy, Saguy, Van Zomeren, et al., 2017; Levy, Žeželj, et al., 2019). The gateway effect was shown to be robust in different intergroup contexts: Israeli-Palestinian conflict (Levy, Saguy, Van Zomeren, et al., 2017), the post-conflict context of former Yugoslavia (Levy, Žeželj, et al., 2019; Ninković & Žeželj, 2022), and context of Muslim and Mexican immigrants in the USA (Levy et al., 2023).

This *gateway groups paradigm* represents a typical example of social-identity interventions for intergroup bias reduction. The main idea behind these interventions is that changing one aspect of the environment (current group boundaries) should result in bias reduction. Here, learning that the

[1] The pool of interventions for intergroup bias reduction is, of course, much wider than this. However, since this thesis is focused on interventions that employ redefinition of social identity or categorization, we will not focus on the other interventions.

gateway group's identity is similar to both ingroup and outgroup facilitates positive perception of the outgroup. Despite their robust immediate effect on bias reduction, hardly anything is known about longevity of the gateway group interventions effects. Moreover, some research practices in testing social-identity interventions can lead to unreliable conclusions about their effectiveness, especially to their application in a real-life setting (i.e., outside the laboratory). We will, therefore, describe how such interventions are typically tested, and discuss potential pitfalls of the typical research practices in the domain of social-identity interventions.

Testing social-identity interventions in laboratory settings

As we described, in a typical social-identity intervention, participants are exposed to some content about the outgroup. Such content is designed to make participants re-examine the current intergroup situation. In this thesis, we will use the dual-identity interventions based on gateway groups paradigm as representatives of social-identity interventions.

In an experimental design, half of the participants read or listen to the content about the gateway group (experimental condition), after which their intergroup bias is assessed. In the other half (control condition), intergroup bias is assessed without exposing people to such content. If we identify that bias is lower in the experimental than in the control group, we conclude that our intervention was successful. Moreover, we conclude that the exact process of identifying with the ingroup component of the gateway group's identity, its generalization onto its outgroup component, and further generalization on the outgroup as a whole underlies the bias reduction. But how can we know that the bias reduction is based exactly on this hypothesized process? We will now focus on how the process of experimental testing of social-identity interventions should look like in order to unpack the underlying mechanisms of the intervention-bias relation.

Manipulation checks

One of the main steps in testing the interventions should be to prove their construct validity, i.e., that the intervention activated the hypothesized psychological process, or affected the hypothesized psychological construct (often referred to as a *focal construct*). In the case of the gateway groups paradigm, it would be to demonstrate that the participants in the experimental condition perceive the gateway group as strongly dually identified – i.e., as having strong identification with ingroup AND outgroup. To test whether the intervention elicited the perception of dual identification, we use the *manipulation check* – we measure how participants perceive the gateway group's identity between their exposure to intervention and measuring their intergroup bias. Therefore, a typical procedure looks like this (Figure 1):

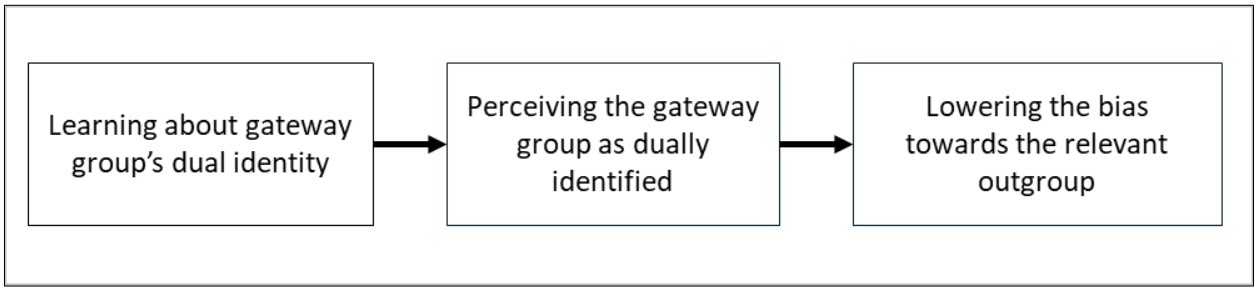

Figure 1. *The process of testing gateway group interventions*

Since manipulation checks represent evidence that the intervention is valid, they seem to be a necessary part of testing the interventions. However, in a recent meta-analysis of 348 social-psychological experiments published in a flagship *Journal of Personality and Social Psychology*, 36% of the interventions were followed by a manipulation check, and the additional 10% had been piloted prior to the experiment; at the same time, a worrying 42% did not have any reported proof of validity (Chester & Lasko, 2021). This practically means that the process underlying the effects of experimental intervention is unknown for 2/5 of the analyzed social-psychological experiments.

Despite the ongoing debate on whether the manipulation checks are a good method for validity testing (Ejelöv & Luke, 2020; Gruijters, 2022; Hauser et al., 2018), it is obvious that our interventions must be validated – either prior to testing (by using pilot studies), or by manipulation checks.

The issue of manipulation checks can get more complicated if we consider that they can be understood as a) a characteristic of the intervention itself, or b) a characteristic of the intervention in the relation to the individual characteristics of participants in the experiment. If we perceive them as characteristics of intervention, then the absence of any differences between control and experimental condition regarding manipulation check simply means that the intervention does not work. By the same token, if a difference between conditions in the expected direction is observed, we can conclude that the intervention tackles the hypothesized psychological construct or process. However, participants enter experimental settings with their individual characteristics, including social identity, ideological beliefs, and attitudes towards the outgroup of interest. It is reasonable to assume that these characteristics can be related to how they perceive the intervention content and, consequently, how they answer manipulation checks. Psychologically, this would mean that the individual differences partly determine whether the intervention can affect a particular psychological process or construct, and therefore whether it has a potential to influence attitude change. Unfortunately, the dominant view of the manipulation checks seems to be the simpler one, meaning that there is no empirical evidence of how individual characteristics moderate the way people respond to the experimental interventions. Therefore, one of the central questions of this thesis will be how individual differences relevant for intergroup relations moderate the reactions on social-identity interventions (see *Research problems and hypotheses* section).

However, social-psychological interventions usually need additional kinds of internal validation: suspicion probes, comprehension checks, and plausibility checks. They do not only vary in terms of their objective, but also in the extent to which they might be subject to participants' prior beliefs and attitudes.

Suspicion probes

Suspicion probes are typical for experiments that use deception, where researchers need to identify the participants who either had prior knowledge of the methods or suspected that they discovered the true purpose of manipulation (Nichols & Edlund, 2015). Since such prior knowledge can contaminate the data and mask the effects of an experimental intervention, these participants are usually excluded from the sample upon data collection. However, as Nichols and Edlund (2015) suggested, little attention has been paid to the reasons why some individuals are more likely than others to suspect the intervention or why the purpose of some interventions is more likely to be suspicious. Only recently have the researchers started systematically addressing these questions and proposing practices to ensure that the suspicion probes are used properly (Barrett et al., 2023).

Unlike the other tools for testing the internal validity of experimental manipulations, social-identity interventions do not often rely on deception, and thus suspicion probes are rarely used in this area. Furthermore, although they can be impacted by participants' individual characteristics, it is little likely that their prior attitudes and beliefs about the outgroup would affect the suspicion probe. Thus, we will focus on the two other types of validity tests that can be affected by prior intergroup attitudes: comprehension and plausibility checks.

Comprehension checks

Comprehension or factual manipulation checks represent simple questions regarding the content of experimental manipulation, with the aim to test whether the participants have carefully read or listened to it (Hauser et al., 2019). Typically, these are simple open-ended or multiple-choice questions that directly examine participants' understanding of what the main idea of the manipulation content is. In other words, they represent an operationalization of participants' attentiveness to the experiment (Kane & Barabas, 2019). If participants fail to answer these questions correctly, researchers conclude that they either did not understand the manipulation content or did not read it

carefully. Thus, such participants are often screened out from the experimental procedure or excluded from the analyses (Aronow et al., 2019).

However, apart from being a sound operationalization of attentiveness and factual understanding, answers to comprehension check questions can be affected by participants' prior beliefs and attitudes. People easier comprehend information that is congruent to their beliefs, compared to the incongruent ones, which is known as text-belief consistency effect (Maier & Richter, 2013). This means that, all things being equal, participants whose attitudes are in line with the intervention content will be more likely to answer the comprehension check correctly than those whose attitudes are inconsistent with it. In other words, those who disagree with the content of experimental manipulation will be more likely to give incorrect answers on comprehension checks. They would reject the information that do not fit their belief systems, which can be due to motivated reasoning – a biased reasoning process that's goal is to reach a conclusion in line with the existing belief system (Kunda, 1990; see also Bar-Tal & Hameiri, 2020 for the discussion about information processing in the interventions for attitude change). Given that the participants who fail comprehension checks are typically excluded from the analysis of experimental effects, researchers of intergroup relations can end up with the sample consisting solely of participants who are less prejudiced, i.e., those who already have neutral or positive attitude towards the outgroup. This can especially be the case in (post-)conflict contexts, where relations between the groups are tense. Along with plausibility checks (see next section), a part of this thesis will be focused on how motivated reasoning can impact comprehension checks.

Plausibility checks

The last type of tools used for internal validation of social-identity interventions are *plausibility* or *believability checks.* As we discussed, the interventions typically consist of a written text that describes some aspects of the intergroup context in a manner that should make participants re-examine the existing boundaries of social categories of interest. The content of these vignettes can be made up so that it depicts a non-mainstream view of the current social identity situation. For example, in the gateway groups paradigm, participants are asked to read the content about an ethnic minority group whose members identify strongly with both minority ethnicity and majority nationality, i.e., that they hold a dual ethnonational identity – which is a counter stereotypical situation, especially in the post-conflict contexts. If they find the vignette convincing enough, that is, if they really believe that the members of the gateway group are dually identified, this should reflect on their perception of gateway group's identity and further generalize on attitude towards the outgroup. Conversely, if participants do not believe the vignette content, it is probable that there will be no effect of the intervention on bias reduction. The question is, however, whether the effect is absent because the intervention is ineffective, or because it is not convincing enough to begin with. In other words, without checking for the plausibility of intervention content, we cannot know the origin of (absence of) its effect. Therefore, to adequately interpret the potential effect of such interventions, or its absence, researchers should test plausibility of the intervention content – to what extent do participants believe it and/or find it plausible.

This can be done simply by including few items where participants would indicate the extent of their subjective plausibility or believability of the intervention content. In other words, plausibility checks are not demanding in terms of time and resources. However, including these checks does not seem to be a standard practice in social-identity research (see Study 1 of this thesis). Here, two different issues regarding the plausibility of experimental interventions should be raised. First, how often do researchers examine the plausibility of their interventions, and second, how do they treat (in terms of data analysis) the participants who find the intervention content implausible. Current social-psychological literature does not offer any review of practices regarding plausibility checks. In fact, unlike the previously described tools for testing internal validation of experimental manipulations, currently available literature on research methods in (social) psychology seems to overlook

intervention plausibility as a threat to experimental manipulation validity. Therefore, little is known about the use of plausibility checks, although they are undoubtedly useful.

The following example can be illustrative of inconsistencies in use plausibility checks in testing social-identity interventions, even within the same group of authors. In the first published paper on gateway group paradigm, the authors reported to have used plausibility checks as a basis for participants exclusion (Levy, Saguy, Van Zomeren, et al., 2017), and we followed this practice in the experiments that aimed to further disentangle the role of gateway groups (Ninković & Žeželj, 2022). However, the same authors omitted to even mention such checks in their replication of gateway groups effect (Levy, Žeželj, et al., 2019) although their open data indicates that the participants were asked about the intervention content's believability and plausibility (Levy, 2019). This illustrates that, even within the same research line and among the same authors, the practice of including and reporting plausibility checks is rather inconsistent.

But why is this important? In the *Comprehension checks* section, we mentioned motivated reasoning as one of the possible reasons why some participants fail to understand the main point of the intervention despite their intact language skills and reading comprehension. If participants' individual characteristics (belonging to particular social groups, ideological beliefs, intergroup attitudes etc.) can affect their understanding of the intervention content, then they must as well affect the extent to which they would believe the content. Thus, plausibility checks can be even more sensitive to motivated reasoning than comprehension checks.

Although systematic empirical evidence is missing, it is reasonable to assume that the prior attitude towards the outgroup can determine the extent to which people are willing to accept novel information about that outgroup. Some interventions for prejudice reduction are only effective in particular ideological subgroups (Hameiri et al., 2016; Nir & Halperin, 2024). We already mentioned that people can automatically reject to properly process the content that conflicts their beliefs (Maier & Richter, 2013), which leads them to answer incorrectly to comprehension checks, although they are perfectly capable of comprehending the intervention content. By the same token, they should be even more prone to reject such content as implausible or unlikely true. The problem of intervention plausibility assessment in social-identity research will be one of the central topics of this thesis (see *Research problems and hypotheses* section). In the following text, we will discuss and illustrate how motivated reasoning, as a function of individuals' prior beliefs and attitudes, can affect the experimental procedures that test social-identity interventions.

Motivated reasoning in intergroup relations

Although reasoning is frequently viewed as a purely cognitive process, it is often affected (i.e., motivated) by our values, beliefs and attitudes. The *motivated* here means that the reasoning process is "contaminated" and thus that its outcome is driven by the goal of upholding the initial beliefs or attitudes (Ellis, 2022; Kunda, 1990). For example, when we learn new information about an outgroup that we are prejudiced against, we would probably be more receptive to the information that describes that group in a negative light, compared to the information describing it positively. Such a discrepancy between negatively and positively charged information serves as a means of justification and support of our initial attitude towards the outgroup. Similarly, people strive to achieve or maintain a positive social identity (Tajfel, 1982), and they can engage in the process of motivated reasoning when choosing which information about their ingroup they would trust. Therefore, we should be more receptive to positive information about our ingroup, than to the negative ones. Finally, as Feldman and Huddy (2018) discussed, political ideology, as one of the central components of belief system, is very stable and thus highly likely to drive the process of reasoning about outgroups. This means that the individuals who endorse progressive and egalitarian ideological views should be open to the novel information that describes outgroups in a positive light and vice versa.

Contemporary research of motivated reasoning regarding social issues mostly captures the subject of the relations between partisanship and political cognition (Bayes & Druckman, 2021; Williams, 2023). As expected, these studies show that individuals' attitudes and political party affiliation shape their perception of credibility of information about important political questions, such as gun control (Kuru et al., 2017). Beyond the partisanship context, researchers detected cases of racially motivated reasoning (Feldman & Huddy, 2018). They showed that, when faced with the factual data about discrimination against Black people, Whites who are prejudiced are more likely to reject such data as non-credible. By the same token, they are more likely to accept the information about positive discrimination of Black people (e.g., that Black students are more likely to be admitted to some state colleges than the White students who have the same test scores). Finally, White people who are higher in racism and more right leaning in ideological terms were less knowledgeable about the recent history of racial segregation (Feldman & Huddy, 2018).

These findings indicate that, when put in the setting where they should focus on intergroup relations, people are prone to discredit information that is inconsistent with their beliefs and attitudes. Moreover, they suggest that factual knowledge about some topics is partly impacted by the individuals' beliefs and attitudes, even when controlling for the general political knowledge (Feldman & Huddy, 2018). It is noteworthy that the items Feldman and Huddy (2018) used to examine participants' knowledge about the history of racial segregation in the US were quite easy, given that they referred to discrimination since 1950s, which is ahead of the Civil Rights Act (1964). In other words, participants needed to know one single piece of information (that is, in which decade the Civil Rights Act pass) to answer all the questions correctly. However, their beliefs and attitudes prevented them from using well-known facts in reasoning, and this holds even for highly educated individuals who were high in general political knowledge (Feldman & Huddy, 2018).

But how does this reflect on practices of experimental research of intergroup relations, and specifically in social-identity interventions? Having in mind that social-identity interventions rely on the information about a particular intergroup context to make individuals re-examine boundaries of social categories, we can assume that some people can *a priori* reject the content of such interventions, due to their ideological beliefs, social identifications, or attitudes and feelings towards the outgroup. In the previous sections, we elaborated on comprehension- and plausibility checks that can be utilized as tools for testing internal validity of experimental interventions. We argued that answers on both these types of questions can be influenced by motivated reasoning: for example, highly prejudiced individuals will be less likely to believe a content that describes the outgroup in a positive light. If this is the case, such prejudiced individuals would be likely to give a wrong answer on the question regarding the main subject of such a description (i.e., to fail comprehension check), or to discard the description as implausible (i.e., to fail plausibility check). We also mentioned that participants who fail these types of checks are sometimes excluded from the analysis of the experimental intervention effectiveness.

Does this mean that at least some of the interventions for intergroup bias reduction were tested on biased samples of individuals whose prior beliefs and attitudes did not make them disregard the intervention content? In the following section, we will use a study by Storz and colleagues (2022) as a case study of comprehension check that could have been influenced by motivated reasoning and discuss the practice of excluding participants from the statistical analysis based on their answers on such checks.

Although this study did not apply a social-identity intervention, methodology and flow of the experimental situation were similar to those used when testing such interventions. Thus, we will use it to demonstrate the importance of considering *who* are the participants who fail our comprehension or plausibility checks. We believe that this study can be a representative example for such demonstration for at least three reasons: 1) apart from the problem of comprehension checks, the study was methodologically and theoretically sound, 2) it utilized an intervention for the reduction of intergroup bias that was susceptible to motivated reasoning in the similar way as social-identity

interventions, 3) it was conducted in the post-conflict context of Kosovo where tension between ethnic groups was strong during the time of data collection (and still is), meaning that any positively framed content about the outgroup could have been rejected as untrue.

Excluding participants based on comprehension / plausibility checks: the case of Storz et al. (2022)

In the study that we will analyze here, the authors examined how perceptions of ownership over a contested territory (Kosovo) affect reconciliation intentions between the two conflicted ethnic groups that both claim to be autochthonous on that territory (Serbs and Albanians; Storz et al., 2022). The authors manipulated perceptions of ownership using vignettes that described the results of extensive research about the history of the two ethnic groups in Kosovo. Half of the participants (randomly assigned) learned that both Serbs and Albanians have been living in Kosovo for centuries, and that both their cultures highly impacted the way Kosovo developed (*shared ownership* condition); the other half learned that their own group (without any notion of outgroup) has been living there for centuries and impacted the way territory developed (*ingroup ownership* condition). After reading the vignette, participants were asked about the main conclusion of the text – this question served as a comprehension check. They could choose among three answers: 1) Kosovo played an important role in European history (incorrect), 2) Kosovo belongs to both groups / to ingroup only[2] (correct), and 3) Kosovo is an ethnically mixed country (factually correct but does not represent the main conclusion of the text). Then they were asked about their perception of shared ownership on Kosovo (manipulation check), and finally about reconciliation intentions (main outcome).

Analysis of the comprehension checks revealed that less than half of the participants (375 out of 809) answered it correctly. When split by experimental conditions, 69% of participants in the *ingroup ownership*, and only 25% in the *shared ownership* condition answered correctly (Storz et al., 2022). Additionally, 33% of the participants in the ingroup ownership condition gave the factually correct answer that does not represent the main point of the text ('Kosovo is ethnically mixed country'). The authors reported the effects observed on the data from the participants who passed the comprehension check and addressed the issue of enormous drop-out in the shared ownership condition. They also re-analyzed the data with those who gave a factually correct answer included, and demonstrated that the effect of the shared ownership manipulation still stood (Storz et al., 2022).

But what was such a massive error rate driven by? Given that the purpose of comprehension checks is to test whether participants have carefully read and understood intervention content, we could conclude that 75% of participants in the *shared ownership* condition failed this relatively simple task. On the other hand, 31% of participants in the *ingroup ownership* condition also failed. However, the texts that participants in the two groups read were completely the same, except for the variation in groups that were said to be autochthonous on the territory of Kosovo. Therefore, there is no reason to conclude that the text in one condition was less comprehensible than the other one. Furthermore, given the random assignment of participants to the two conditions, it is little probable that any systematic sampling error led to this outcome. Therefore, the causes of such disproportionate error rate in two conditions should have come from the interaction between intervention content and participants' beliefs, attitudes, characteristics, or prior knowledge.

The authors offered two plausible explanations: a) that the narrative of shared ownership accidentally made the representation of ethnic diversity salient, and b) that it was difficult to convince people of the version of history they do not believe in, and thus that the mental representation of ethnic diversity was activated *instead of* the shared ownership representation. Both can be true, and we cannot know the answer until we consider 1) baseline levels of perceived shared and ingroup ownership, 2) how history is taught in Serbia and Kosovo and 3) look into the other characteristics of participants who failed the comprehension check.

[2] This option varied regarding the experimental condition.

First, although there was no control condition that would serve as a baseline of ownership perceptions, we can derive it from the correlational Study 1 from the same paper[3]. For both groups, baseline of ingroup ownership perception is very high (6 or higher on a 7-point scale), whereas perception of the direct shared ownership (the same measure that was used as a manipulation check in the experimental study) was below the theoretical midpoint of 4. This means that there was enough space to strengthen the shared ownership representation, but this does not necessarily mean that the representation of ethnic diversity could not have become salient as well. However, another interpretation offered by the authors can add to our understanding of why participants failed the comprehension check.

The experimental intervention applied here relied on a historical narrative about the two ethnic groups in the territory of Kosovo, meaning that it must have interacted with participants' existing historical knowledge in order to change it. However, historical knowledge, and especially that related to ethnonational history, does not exist in a societal vacuum – it is a part of a group's representation of its history (Liu & Hilton, 2005). Such historical representations are formed and nurtured by the ingroup through monuments, practices, particular discourses about historical events, and especially through history textbooks used within the educational system (Liu & Hilton, 2005). As a consequence, whole generations are nurtured to hold particular attitudes towards ethnonational outgroups, especially in the contexts of current or recent conflict (Bar-Tal et al., 2017).

Comparative analysis of Serbian and Kosovan history textbooks regarding Kosovo indicates massive differences in the narratives used in the two educational systems (Gashi, 2016). The analysis shows how each group portrays the outgroup in a negative light throughout history. In Serbian textbooks, Albanian ethnic group in Kosovo is first mentioned during the period of Ottoman rule on Balkans[4] (15th century), and here they are mentioned in a negative context: they were privileged over Serbs given their religion, and they took an important part in Islamization of Serbian people (Gashi, 2016). After the liberation from Ottoman rule in early 20th century, Serbian breakthrough in Kosovo (1912) is treated as a liberation, while Albanians are portrayed as villains who established a national state in the southern part of Adriatic coast – the one that Serbs tried to conquer. In more recent history, Albanians are portrayed as separatists in Yugoslavia, and this narrative continues in the most recent history of Yugoslav wars. On the other hand, Kosovan history textbooks treat Albanians as direct descendants of Illyrians, who were natives in the Balkans. Serbs are first mentioned as colonizers of Albanian land during the 14th century. Serbian breakthrough in Kosovo in 1912 is framed as an occupation. In contemporary history, Kosovan textbooks portray Serbs as colonizers who were continuously committing genocide over Albanians, and this narrative continues during the Yugoslav wars in 1990s.

This short comparison of narratives about two groups in their history textbooks indicates how their members can perceive this intergroup context. Since history textbooks are one of the most powerful sources of social representations of history (Liu & Hilton, 2005; Stojanović, 2024), their content tells us what people in each group might know about the outgroup, and how that knowledge was framed[5]. The content of *ingroup ownership* condition is therefore in line with the dominant historical representations two groups have about each other. On the other hand, the intervention that Storz and colleagues applied in the *shared ownership* condition did not fit into anything participants officially learned about history of the two groups, and more importantly, into their belief systems. Thus, rejection of the narrative about shared ownership – or, in this case, rejection of acknowledging

[3] The samples were not representative, however, in both studies the same stratification strategy was used, and the samples were similar regarding average age, as well as gender and education level distribution (Storz et al., 2022).

[4] According to Gashi (2016), Serbian textbooks first mention Albanians in the context of Slav settlement in Balkans, and then neglected until the period of Ottoman rule over Balkans.

[5] Of course, textbooks are not the only source of historic information, and there are significant individual differences in how people perceive such information regarding their ideological beliefs, ethnic identity, and other individual characteristics. However, any further analysis on this topic is far beyond the scope of this thesis.

that the text described peaceful coexistence of the two groups throughout history – can represent a good example of motivated reasoning. Of course, we do not claim that the drop-out of each participant was due to motivated reasoning, but it is reasonable to assume that, for some of them, the content of the intervention was simply implausible, which led them to a wrong conclusion about the main subject of the read text.

Additional analyses would be needed to support our conclusion. For example, plausibility check would be useful to test our assumption that participants failed to answer correctly because they found the information in the vignette to be untrue. Measures of pre-treatment attitudes, or beliefs about shared ownership, would also help disentangling this issue, as would measures of individual differences relevant for intergroup behavior. Such a measure available in the dataset provided by the authors (Storz et al., 2022) is religiosity. We re-analyzed the data to look into the relationship between religiosity and answers on the comprehension check item. It turned out that the less religious participants were, the more likely they were to correctly conclude what the main point of the text was[6]. In other words, the precondition for the intervention to be effective (that is, actual increase of shared ownership perception after the intervention) is that participants are not highly religious. Although religiosity cannot be treated as a measure of either ideology, or intergroup beliefs and attitudes, it is in tight relation to ethnocentrism and prejudice (Hall et al., 2010), as well as right-wing ideological beliefs (Caprara et al., 2018). Additionally, since the Serbian-Albanian intergroup context is not only interethnic, but also inter-religious, and especially given that ethnic and religious identities are tightly intertwined in this region (Žeželj & Pratto, 2017), religiosity can be treated as a marker of ingroup importance here. Therefore, this demonstrates how participants' individual characteristics might have shaped the way they perceive the content that we use in light-touch interventions for intergroup bias reduction.

In addition, we found that the text about shared ownership in some cases had a reverse effect on the perception of shared ownership, as well as on reconciliation intentions[7]. Only in case of the correct answer on comprehension check were perception of shared ownership and reconciliation intentions higher in the *shared ownership* (compared to the *ingroup ownership*) condition[8]. On the other hand, priming shared ownership either backfired (for those who gave a completely incorrect answer)[9], or had not significant effects (for those who gave a factually correct answer)[10]. In other words, if it was to be applied outside the laboratory, such intervention would have had a negative impact on reconciliation intentions in those individuals who failed to understand its main conclusion.

This example illustrates the importance of more careful and thorough testing of how people perceive and respond to our experimental interventions. It demonstrates that, to make such interventions suitable for the application outside the laboratory, social psychologists should not only test for their effectiveness, but also check their believability in a social context they are to be applied

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[6] Multinomial logistic regression indicated the differences in probability of correct answer regarding participants' degree of religiosity (χ^2 (2) = 9.19, p = .010): those more religious were more likely to give an incorrect (Exp(B) = 1.17) or a factually correct but otherwise incorrect answer (Exp(B) = 1.24) compared to the likelihood of giving a correct answer.

[7] Interaction between experimental condition and answer on comprehension check was significant (F(2,803) = 17.58, $p < .001$, $\eta^2 = .04$)

[8] Shared ownership perception: $M_{shared\_condition}$ = 4.00, 95% CI [3.70, 4.30], $M_{ingroup\_condition}$ = 3.30, 95% CI [3.12, 3.49]; reconciliation intentions: $M_{shared\_condition}$ = 3.71, 95% CI [3.44, 3.98], $M_{ingroup\_condition}$ = 3.15, 95% CI [2.99, 3.32]; reported are estimated marginal means.

[9] Shared ownership perception: $M_{shared\_condition}$ = 2.87, 95% CI [2.61, 3.14], $M_{ingroup\_condition}$ = 4.15, 95% CI [3.71, 4.58]; reconciliation intentions: $M_{shared\_condition}$ = 3.14, 95% CI [2.90, 3.38], $M_{ingroup\_condition}$ = 4.15, 95% CI [3.76, 4.55]; reported are estimated marginal means.

[10] Shared ownership perception: $M_{shared\_condition}$ = 3.45, 95% CI [3.23, 3.68], $M_{ingroup\_condition}$ = 4.03, 95% CI [3.67, 4.38]; reconciliation intentions: $M_{shared\_condition}$ = 3.31, 95% CI [3.11, 3.51], $M_{ingroup\_condition}$ = 3.77, 95% CI [3.45, 4.09]; reported are estimated marginal means.

to. In addition, it is necessary to consider specific characteristics of the context in order to try and prevent foreseeable backfire effects.

This is especially important for the case of *light-touch* interventions - those that require less resources and are thus most frequently tested in psychological studies. Since most of the social-identity interventions are representatives of light-touch interventions, in the following text, we are going to discuss their potential to change individuals' attitudes and behaviors, but also their shortcomings in a wider context of generalizability of psychological interventions.

Light-touch social-psychological interventions: their effectiveness and generalizability

Although there is no clear distinction between the light touch interventions and those that are not, Paluck and colleagues (2021) defined them through their key features: 1) easy to implement, 2) brief, and 3) cheap. Based on what they coded as *light-touch*, we add an additional feature – most of these interventions manipulated the characteristics of the existing situation (e.g., whether there is a particular social norm, or how some social groups identify, etc.) instead of putting individuals in a new situation (e.g., direct contact with outgroup members, or attending diversity training).

Can light touch interventions change behavior outside the laboratory?

Recent meta-analyses (Paluck et al., 2021) and reviews (IJzerman et al., 2020) have problematized the issue of generalizability and applicability of psychological interventions. The issue of the real-life potential of psychological interventions to make a significant social impact is not reserved only for the topic of intergroup relations. During the 2010s, there was an expansion of research papers that tested light touch interventions, subsequently claiming that they can have a high impact on people's psychological lives, and, therefore, on society as a whole (Bryan et al., 2021). The initial optimism that such simple and low-cost individual changes of beliefs and behaviors might eventually change the world[11] increased the efforts to apply such interventions through policies (see Premachandra & Lewis, 2022). With the onset of the Covid-19 pandemic, social scientists finally got an opportunity to have their interventions translated into real-world measures.

With the beginning of a global crisis, social psychologists and other social scientists proposed how different findings from their fields should be utilized to create interventions intended to increase adherence to preventive measures (Van Bavel et al., 2020). However, subsequent analysis revealed that these "behavioral insights" were based on the findings of laboratory experiments that a) have rarely been replicated in the real world, and b) have been conducted on biased samples and thus are difficult to generalize across different socio-cultural groups (Ruggeri et al., 2024). This raised a concern regarding the universality of social-psychological findings and their usefulness in creating public policies (IJzerman et al., 2020).

At the same time, the replication crisis in (social) psychology motivated researchers to try and replicate a variety of experiments that employ light touch interventions that had previously been claimed to have a high potential for real-life application. The initial findings indicated that such interventions might have impressive effects on people's behaviors and beliefs (e.g., Bryan et al., 2011; Swami et al., 2014). For example, Bryan and colleagues (2011) reported that subtle linguistic cues, such as using nouns instead of verbs to describe voting behavior (i.e., *a voter* vs. *a person who votes*), can result in substantially higher voter turnout in national or local elections. Proving the generalizability of such a finding would mean that there are easy ways to motivate potential voters and abstainers and, therefore, increase people's participation in political life. However, the efforts to replicate this finding on larger samples were unsuccessful. In fact, replication studies did not find any evidence that wording variations affected voting behavior (Gerber et al., 2018, 2023). Additionally,

[11] This attitude can also be problematized. However, such a discussion is far beyond the scope of this thesis.

meta-analytic evidence indicated instability of the effects of subtle linguistic cues on behavior (Witkowska et al., 2024).

Similarly, Swami and colleagues (2014) conducted a set of experiments using light touch interventions that aimed to reduce people's belief in conspiracy theories by priming analytical thinking. Across three experiments, they showed that participants who went through the short analytical thinking sessions significantly reduced the extent of belief in conspiracy theories (Swami et al., 2014). Given the wide spread of conspiracy beliefs, and their effects on political behavior, these results were promising: simple and cheap interventions seemed to effectively reduce such beliefs. The study was, therefore, frequently cited as proof that changing the way people think can affect their belief in conspiracy theories despite there being no evidence that it has ever been replicated (Većkalov et al., 2024). However, a direct replication of Swami's experiments revealed a different pattern of results. In two highly powered experiments, Većkalov and colleagues (2024) found no evidence that such interventions could affect belief in conspiracies. Moreover, they did not observe any differences in analytical thinking between the group that was primed to think analytically and the control group, which revealed that the intervention failed to affect the proposed underlying psychological process.

The discussed examples of unsuccessful replications illustrate the discrepancy between the promising initial findings of light touch interventions' effectiveness and their later failure to elicit any effect on behavior. However, these examples not only call for large-scale tests of social-psychological interventions but also challenge the way we think about turning them into policies. Intergroup bias researchers who have practical experience in facilitating intergroup relations in the context of pervasive conflict emphasized the importance of context in which interventions are tested (Bar-Tal & Hameiri, 2020). They argued that the interventions that are proved to be effective in one societal context can be completely useless, or even harmful in another one. Along the same lines, a recent study highlighted that, to be effective, an intervention has to fulfill individuals' psychological needs (Nir & Halperin, 2024). The authors demonstrated how targeting specific needs of ideological groups can successfully reduce bias (Nir & Halperin, 2024). This is especially important when interventions are applied to the members of groups that have a recent history of conflict, where interventions are rarely effective and can easily backfire. Furthermore, they argued that the characteristics of target population of the intervention must be taken into account: some interventions are the most effective among people who hold extreme beliefs, whilst others work better for individuals with moderate beliefs (Bar-Tal & Hameiri, 2020).

Therefore, Bar-Tal and Hameiri (2020) argued that the back-and-forth collaboration between researchers and practitioners is necessary if we want to tailor interventions that can be applicable and effective in the real world. Whilst laboratory experiments can offer the initial evidence of their effectiveness, field experiments are needed to test the success of the interventions further. Only then should researchers go back to the laboratory and test for psychological mechanisms that underlie the observed effects. Furthermore, to be effective, they claim that the interventions for bias reduction should be multidimensional in that they should engage more than one psychological process. Finally, researchers should take into account the unique characteristics of a particular social situation instead of being centered on one social context only (Bar-Tal & Hameiri, 2020).

Previous discussions on the applicability of social-psychological interventions seems to doubt the usefulness of social-identity interventions for intergroup bias reduction. Apparently, most of them are far from what Bar-Tal and Hameiri (2020) suggested that is needed for the success of an intervention. However, despite their questionable potential to reduce the bias outside of the laboratory, social-identity interventions might be a perfect tool for testing the psychological processes that underlie prejudice reduction. In fact, a large number of social-identity interventions were primarily created as experimental manipulations that should elicit particular psychological processes, rather than the interventions that should be applicable outside the laboratory (Paluck et al., 2021). In other words, their purpose was not to be widely applied, but to be used as methodological tools that help researchers to understand psychological processes that underlie the relation between group

identification and intergroup bias. The division between *us* and *them* is enough to elicit ingroup favoritism, and we derive a part of our personal identity from the groups we belong to (Haslam, 2011). Therefore, understanding the mechanisms underlying the processes of social identification and categorization, their relations to intergroup bias, and how individual characteristics affect these processes, is essential for tailoring interventions that would successfully reduce bias outside the laboratory. Experimental social psychology has improved its techniques and practices over the past decades. However, some procedures and routines - such as the lack of manipulation checks, or excluding participants based on some kinds of comprehension and plausibility checks - are still problematic.

Research problem and hypotheses

Given the discussed characteristics of social-identity interventions for intergroup bias reduction, this thesis will address important methodological issues in testing such interventions. The aim of this thesis is threefold, therefore, three groups of studies were conducted.

First, we systematically reviewed studies in which these interventions were experimentally tested. The main goal of this study was to describe the current practices regarding comprehension, plausibility, and manipulation checks. We focused on the experiments that tested the interventions whose content is subject to motivated reasoning. Since this is a descriptive study, we did not explicate any hypotheses regarding it.

Second, we experimentally tested two interventions that use the gateway group paradigm to reduce the intergroup bias. The experiments were conducted among Serbs and Bosniaks who have a recent history of violent conflict. Throughout four experiments, we aimed to compare perceived plausibility of the two interventions (plausibility check), as well as their potential to prime participants with the representation of the gateway group's dual identity (manipulation check). Both interventions utilized the gateway group paradigm, but differed in framing: in the *ingroup perspective*, participants learned that their ingroup perceives the gateway group as dually identified; in the *outgroup perspective*, they learned that the gateway group members report that they are dually identified. *Ingroup perspective* intervention, therefore, sets up a descriptive group norm that the gateway group should be perceived as dually identified. On the other hand, *outgroup perspective* intervention is based on learning how the gateway group members feel regarding their identity. The two interventions have never been compared in a single design, however, given their highly similar content, we specified the following hypotheses[12]:

H1: Two interventions will be assessed as equally plausible.

H2: Two interventions will equally impact perception of gateway group's dual identity.

H3: Perception of gateway group's dual identity will be higher in both experimental conditions than in the control condition (where participants will receive a sham intervention instead of any dual-identity intervention).

Given that people can differently respond to the similar content depending on its framing, we included four potential moderators of the interventions: ideological orientation, ethnic identification strength, perspective taking, and perceived outgroup threat. However, due to the high demands regarding sample size for testing multiple moderations within the same design, we specified the hypotheses regarding the correlations between plausibility and individual differences[13]:

[12] We specify general hypotheses here; more specific hypotheses, as well as their theoretical and empirical justification, are detailed in the respective chapters.

[13] We later tested moderation effects, but in an exploratory manner. More details on this can be found in the chapter 4.

H4: Ideological beliefs, strength of ethnic identification, ethnocultural perspective taking, and perceived outgroup threat will be related to plausibility assessment.

Hypotheses regarding the relations between individual differences and dual identity perception (that is, manipulation check, i.e., the extent to which participants perceive the gateway group as simultaneously identified with ingroup and outgroup), mirrored those related to plausibility:

H5: Ideological beliefs, strength of ethnic identification, ethnocultural perspective taking, and perceived outgroup threat will be related to the perception of gateway group's dual identity.

Finally, we specified the hypothesis regarding the relation between plausibility assessment and dual identity perception:

H6: Plausibility of each intervention will correlate positively with dual identity perception after the exposure to that intervention.

The third aim of this thesis was to compare the same two interventions regarding their potential to reduce the aspects of intergroup bias. Across two experiments, we measured a set of attitude-related outcomes and tested a) whether they were affected by the interventions, b) whether they were related to individual differences, especially threat perception, and c) whether they were related to the interventions' plausibility. Given that this study was informed by the previous set of experiments, we pre-registered the following hypotheses:

H7: Participants in both experimental conditions will have higher scores on the attitude-related measures than the participants in the control condition.

The last hypothesis was based on the results of the previous set of experiments:

H8: Plausibility of the interventions will moderate the intervention effects on Outgroup attitude.

In the following three chapters, we are going to discuss these three studies in detail. More specific goals, alongside detailed methods of each study, will be presented in corresponding chapters.

3. Study 1: A systematic review of plausibility and manipulation checks use in testing social-identity interventions

In the previous chapter, we discussed various methodological tools that researchers in social psychology use to ensure the internal validity of experimental interventions: manipulation checks, suspicion probes, comprehension checks, and plausibility checks. We showed that manipulation checks have received much attention in recent years in that researchers are continuously analyzing current practices of their use, especially in the field of social psychology (Chester & Lasko, 2021; Ejelöv & Luke, 2020; Fiedler et al., 2021; Gruijters, 2022; Hauser et al., 2018). There are also efforts to systematize how suspicion probes are used in social-psychological experiments (Barrett et al., 2023; Nichols & Edlund, 2015). On the other hand, we did not find any systematization or methodological discussion about the use of the tools that can be subject to motivated reasoning - plausibility and comprehension checks[14].

We previously discussed that comprehension and plausibility checks might be subject to motivated reasoning, especially in social-identity interventions for the reduction of intergroup bias. We argued that these tools that assure the validity of experimental interventions are subject to motivated reasoning, in that participants might *a priori* reject the intervention content as implausible or incorrectly understand its main conclusions. This is especially the case in the intergroup contexts charged with hostility due to ongoing or recent conflict or unequal power distribution.

Researchers rarely (if ever) take this into account, which, in extreme cases, can result in a significant number of participants excluded from statistical analysis and, therefore, in lower power for statistical testing of the focal hypotheses. Moreover, this can lead to less generalizable results since participants who hold strong outgroup bias might be more likely to reject the intervention content. Thus, the already questionable generalizability of experimental findings (IJzerman et al., 2020) can become more problematic only because the interventions might not be appealing to every individual.

Therefore, the aim of this chapter is to systematically review the current practices of usage of suspicion probes, comprehension, plausibility, and manipulation checks in social-identity interventions for the reduction of intergroup bias. More specifically, we aimed to count and summarize the number of experiments testing such interventions in terms of:

1) Use of suspicion probes
2) Use of comprehension checks and filtering out participants based on their incorrect answers
    - Under comprehension check, we mean questions regarding the *understanding of the intervention content*
3) Use of plausibility checks and excluding participants from the sample when they do not assess the intervention content plausible enough
    - Under plausibility check, we mean questions which assess *believing that the intervention content is true*
4) Use of manipulation checks

For that purpose, we conducted a systematic review of the experimental studies of social-identity interventions published in scientific journals. The two main questions of this study were:

[14] One prominent exception is the paper where authors discuss comprehension checks as a subgroup of instructional manipulation checks. However, they do not focus on the way comprehension checks can be subject to motivated reasoning (Oppenheimer et al., 2009).

1) When studying social-identity interventions for the reduction of intergroup bias, how often do researchers use suspicion probes, comprehension, plausibility, and manipulation checks?
2) How do researchers treat participants who fail any of these checks?

Procedure of Systematic literature review

We searched the following databases: ScienceDirect, Scopus, and Web of Science[15]. Literature search was conducted in April 2022 using the following sets of terms: identity + experiment OR replication + intergroup. The search strings for each database are detailed in Appendix A.

We identified a total of 954 records, 377 of which were duplicates, leaving us with 577 records for abstract screening. To filter out the records that do not consider empirical studies that test experimental interventions in intergroup context, as well as those that were not written in English or any variant of former Serbo-Croatian (Bosnian, Croatian, Montenigrin, Serbian - BCMS), we proceeded to abstract screening (Table 1). This left us with 372 unique records for the next step.

Table 1

Records excluded after abstract screening

Criterion	Number of records to exclude
Language other than English or BCMS	1
Record does not consider any intergroup context	5
Record does not consider any empirical studies	35
Record does not consider any experimental studies	89
Dependent variables are clearly unrelated to the intergroup context	75
TOTAL EXCLUDED	205

After excluding three additional records that could not have been retrieved in their full versions, we screened the remaining 369 records in detail. In this phase, we excluded the records that a) do not report any experimental studies, b) do not measure any variable of intergroup bias[16], c) report the experiments solely conducted in a minimal or ad-hoc intergroup setting (i.e., without any real groups), d) do not have an experimental intervention that might be subject to motivated reasoning, and e) do not target any aspects of participants' social identity with the experimental intervention. This left us with 71 studies from 46 original research articles for the final review. The whole procedure is summarized in the PRISMA2020 flow diagram (Page et al., 2021) that is presented in Figure 2.

The first two exclusion criteria are straightforward and standard in systematic reviews. The third – minimal or ad-hoc intergroup setting – was introduced because we were interested in the interventions tested in real intergroup contexts that can, therefore, be rejected due to participants' prior beliefs and attitudes. We defined the fourth criterion following the same logic – sensitivity of the intervention content to motivated reasoning. Since we are interested in the interaction between

[15] Although it is representative and was planned to be included in the search, PsycINFO database was unavailable for advanced search for the users in Serbia during the period the study was conducted. However, the search covered flagship journals in this field, such as *Journal of Experimental Social Psychology, European Journal of Social Psychology, Group Processes and Intergroup Relations, Journal of Personality and Social Psychology, British Journal of Social Psychology etc.*

[16] This resulted in the exclusion of all studies that manipulated social categorization but focused on outcomes regarding social identification and not intergroup bias; therefore, a large portion of studies that tested CIIM and Dual identity model were excluded.

the intervention content and participants' individual characteristics - social identifications, ideological beliefs, and outgroup attitudes - we restricted this analysis to the interventions whose content can be understood differently considering these characteristics. The gateway groups paradigm is a prominent example of such an intervention: participants get exposed to content about the gateway group, and their understanding of such content can be contaminated by their individual characteristics. On the contrary, interventions that use, e.g., direct contact with outgroup members, do not have any *content* that might be susceptible to motivated reasoning and were, therefore, excluded. Finally, since this thesis is focused on social-identity interventions, we restricted the analysis to the studies that tested such interventions – those that target some aspects of the existing social categorization and redefine the current social categories.

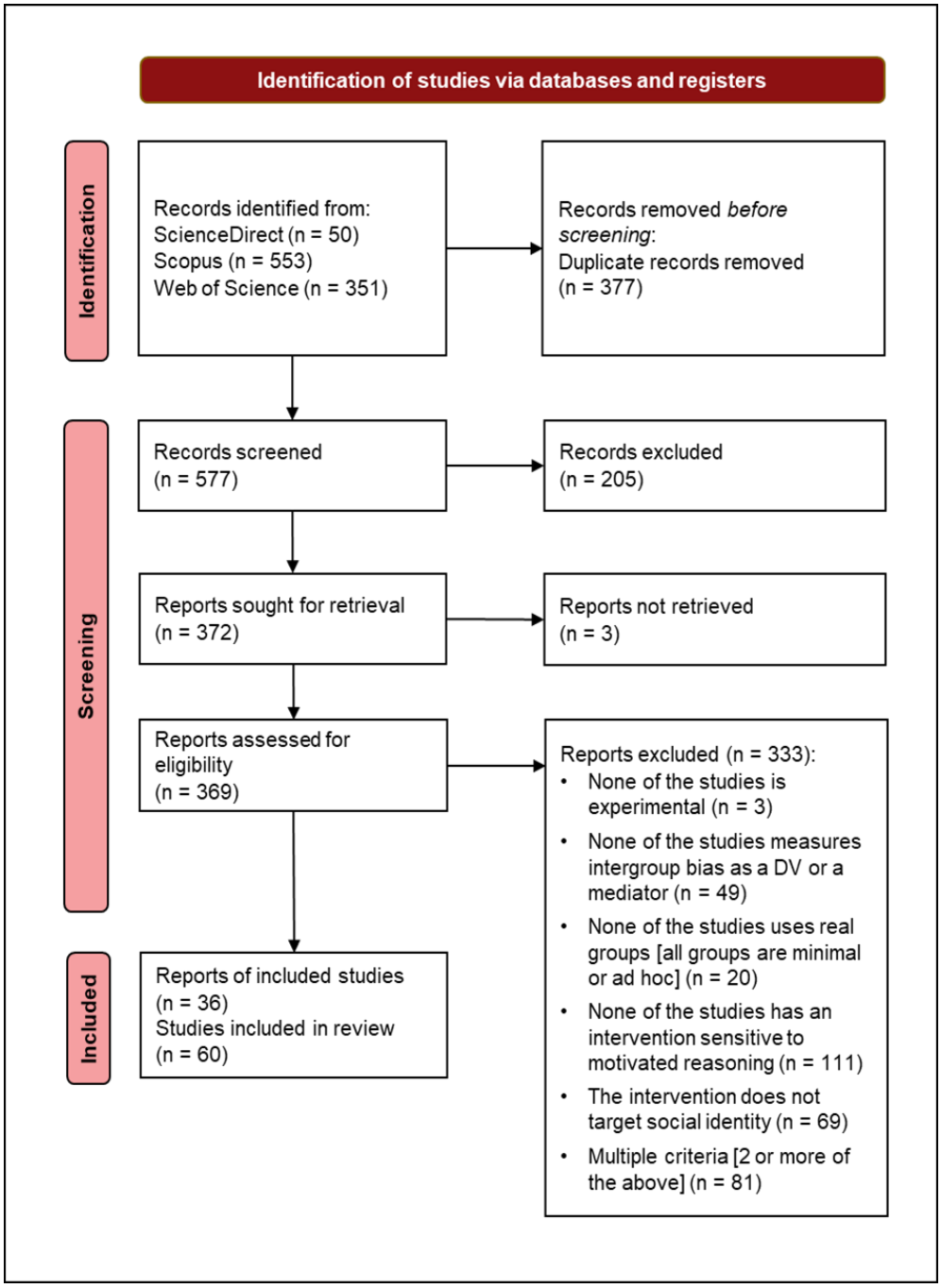


Figure 2. *Prisma2020 flow diagram*

We recorded seven groups of variables. For all studies that passed abstract screening, we recorded the first three groups of variables. The rest of the variables were recorded only for the studies that passed all filters and were included in the review:

1. General information about the study (authors, title, year, keywords, DOI)
2. Information about the sample (sample size, mean age, gender structure, country, language, year of data collection)
3. Variables that served for reports exclusion:
    a. Study design (experimental / other)
    b. Dependent variables (intergroup bias / other)
    c. Type of the groups (real groups / minimal or ad hoc groups)
    d. Sensitivity of the intervention content to motivated reasoning (sensitive / not sensitive)
    e. Social-identity intervention (yes / no)
4. Methodological aspects of the study:
    a. Experimental design (between subjects / within subjects / mixed)
    b. Type of control condition (sham / without intervention / none)
    c. Experimental setting (laboratory, survey experiment etc.)
    d. Manipulation administration type (vignettes, false feedback etc.)
    e. Independent variable that captured social identity
5. Intergroup setting:
    a. Group type (ethnic, national, religious, gender etc.)
    b. Ingroup
    c. Outgroup
    d. Recent history of intergroup conflict (ongoing conflict, post-conflict, power conflict, symbolic conflict etc.)
6. Variables regarding validity checks:
    a. Suspicion probes
        i. Was a suspicion probe administered? (yes / no / not reported)
        ii. How many participants were excluded from the analyses based on suspicion probe?
    b. Comprehension checks
        i. Was a comprehension check administered? (yes / no / not reported)
        ii. How many items were used for the comprehension check?
        iii. Was the comprehension check subject to motivated reasoning? (yes / no)
        iv. Were participants excluded from the analyses based on comprehension check? (yes / no / not reported)
        v. If yes, how many participants were excluded?
    c. Plausibility checks
        i. Was a plausibility check administered? (yes / no / not reported)
        ii. How many items were used for the plausibility check?
        iii. Were participants excluded from the analyses based on plausibility check? (yes / no / not reported)
        iv. If yes, how many participants were excluded?
    d. Manipulation checks
        i. Was a manipulation check administered? (yes / no / not reported); if the experiment lacked a manipulation check, but the intervention was piloted prior to the experiment, it was coded “pilot”
        ii. How many items were used for the manipulation check?

iii. Were participants excluded from the analyses based on manipulation check? (yes / no / not reported)
iv. If yes, how many participants were excluded?

e. The total number of participants excluded based on the checks

7. Measures of intergroup bias that served as dependent variables [DV] (outgroup feelings, prejudice, stereotypes, etc.)

For variables in groups 1, 2, 3, 4a, 4b, and 6, categories were a priori defined. On the other hand, we used a bottom-up approach for variables 4c, 4d, 5, and 7.

As for variable 4c (experimental setting), the code "*laboratory"* was used if the authors explicitly reported that the experiment was conducted in a laboratory or similar controlled environment. We used the code "*survey"* if the experimental procedure was administered in less controlled environments, such as online experiments. Finally, the code "*panel"* was used if the authors explicitly reported that they had collected the data using panels such as Amazon M-Turk. Otherwise, we used the code "*inconclusive"*.

The variable 4d (manipulation administration) contains information about the way participants were exposed to the intervention. The code "*vignettes"* was assigned to every experiment where participants were expected to read or listen to the content about the intergroup situation that served as an intervention. We used a "*false feedback"* code for the studies where participants were given ostensible feedback about their performance or characteristics in order to induce the idea of similarity with the outgroup.

Variable 4e (independent variable that captured social identity), contains the information about the social identity aspect that was manipulated. For the studies with more than one independent variable, we omitted those that are not directly related to identity. For example, if the design contained manipulation of intergroup threat as a factor independent of the manipulation of social identity boundaries, we did not consider the manipulation of threat as relevant. Hence, all variables regarding validity checks related to the manipulation of social identity boundaries and not to potential other manipulations.

For variable 5d (recent history of intergroup conflict), we first intended to gather information about armed conflicts only, with categories of *ongoing conflict*, *post-conflict*, and *no conflict*. However, during the coding process, it became evident that some intergroup settings are charged with *power conflict* (e.g., inter-racial, gender, or relations between immigrant and host communities) or *symbolic conflict* (e.g., post-cold-war relations between Russia and former Eastern bloc countries). On the contrary, target groups in some experiments did not have a recent history of any kind of conflict (e.g., students from different University departments), and were coded as *no conflict*. For the groups that have a history of conflict dating prior to the end of WW2, we also used the code *no conflict*[17].

Finally, for variable 7 (a measure of intergroup bias that served as a DV), we did not compress the measures in higher-order categories.

All studies were coded by the author of this thesis. Additionally, to increase the objectivity of coding, the supervisor of the thesis coded randomly chosen 10% of the articles prior to the screening. This decision was made in order to ensure objectivity for variables 3a–3e. Inter-rater reliability was high (Cohen's kappa = .93). The full coding scheme can be found on the following link https://osf.io/cjt9w/?view_only=a43f422ade2540359e64514b45c1e25f.

[17] One can argue that this cut-off is arbitrary, which it is in a way. However, given the world-wide socio-political changes that occurred after WW2, we decided to consider only the conflicts that happened after it.

Results of systematic literature review

Characteristics of analyzed studies

We analyzed a total of 60 experiments reported within 36 articles published between 1997 and 2022. The details about each experiment are listed in Table 2.

A vast majority of experiments (92%) used a between-subject design; four studies (7%) used a mixed design, whilst only one study used a fully within-subject design.

Regarding intergroup settings, a majority of studies (72%) focused on ethnic, national, religious, or racial identities. We report these as one category, given that they often overlap and would thus be impossible to disentangle. The most prominent examples of categories that overlap in this context are studies where *immigrants* are considered an outgroup relative to the ethnic majority in a given country. Here, the basis for ingroup-outgroup distinction cannot be reduced to only one criterion of social categorization such as ethnicity. Furthermore, experiments that study the relation between Whites and Blacks in the USA sometimes label these groups as *ethnic*, whilst others label them as *racial*. Finally, in some contexts, e.g., ex-Yugoslavia, ethnic, national, and religious identities are closely intertwined. This means that, although the experiments typically focus on one basis of social categorization (e.g., ethnicity), the other lines of intergroup division (e.g., religious affiliation) are also implicitly present.

Of the rest of the studies, 17% focused on the relations between universities or university departments. Other represented intergroup contexts were related to sexual orientation (hetero- vs. homosexuals, 5%) and place of residence (urban vs. rural, 3%). The least represented contexts, with one experiment per category, were body-related (non-obese vs obese people) and football fans (Schalke vs. Borusia Dortmund).

One-third of experiments were conducted in intergroup contexts that are not charged with conflict (e.g., universities that are considered equally prestigious; nations that were not in conflict since the end of WW2). Forty-two per cent of experiments were conducted in the intergroup setting with an unequal distribution of power (e.g., Whites vs. Blacks; immigrants vs members of host society) and were therefore coded as *power conflict*. An additional 5% included a combination of power- and symbolic conflict, and this encompassed only the experiments conducted in The Netherlands with Dutch majority and Muslim immigrants; here, the *power-* component of the conflict is derived from the nature of immigrant status, whilst the *symbolic* component comes from the differences in religious affiliation between the groups. An additional six experiments (10%) were coded solely as *symbolic conflict* (e.g., Poles vs Russians; Schalke vs Borusia Dortmund football fans). Seven percent of experiments were conducted in a *post-conflict* context of ex-Yugoslavia[18]. Finally, two experiments were conducted in the setting of ongoing conflict between Israelis and Palestinians.

As for the experimental interventions, a majority of studies tested the interventions that imposed a superordinate social category (i.e., a common ingroup identity) and contrasted it to a condition with two separate groups (33%). Another 30% compared common ingroup identity interventions to those that impose dual identity – i.e., simultaneously salient superordinate and subordinate categories. Eight per cent of studies contrasted dual identity to separate groups, and 7% of the experiments used interventions that primed intergroup similarity. The remaining 25% of the interventions utilized other concepts derived from Social identity framework, such as the gateway group paradigm or manipulating social identity complexity.

[18] Interestingly, the studies conducted in other European (post-)conflict contexts, such as Cyprus and Northern Ireland, did not meet the inclusion criteria. The reason for this is that they either used the interventions that were not subject to motivated reasoning (e.g., direct contact interventions), or that did not manipulate social identities.

Table 2

Analyzed studies and relevant variables

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Whites' perceptions of discrimination against Blacks: The influence of common identity (Banfield & Dovidio, 2013)	BS	118	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Perceived bias in favor of OG	NO	n/a	NO	n/a	NO	n/a	NO, modelled after existing	n/a
	BS	158	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Perceived bias in favor of OG; Collective action against OG; Prejudice against OG	NO	n/a	NO	n/a	NO	n/a	NO, modelled after existing	n/a
	BS	77	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Perceived bias in favor of OG; Collective action against OG	NO	n/a	NO	n/a	NO	n/a	NO, modelled after existing	n/a
A peek inside the target's toolbox: How stigmatized targets deflect discrimination by invoking a common identity (Schmader et al., 2013)	M	88	sexual orientation	power	Common ingroup identity (vs. Separate groups)	Evaluation of OG; Discriminative behavior against OG	YES	1	YES, as MC	YES	NO	n/a	PILOT	NO
	M	89	sexual orientation	power	Common ingroup identity (vs. Separate groups)	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	PILOT	n/a

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Complex inclusive categories of positive and negative valence and prototypicality claims in asymmetric intergroup relations (Alexandre et al., 2016)	BS	160	university	none	Common ingroup identity vs. Dual identity	Relative ingroup prototypicality	NO	n/a	NO	n/a	NO	n/a	YES	NO
Equality for all? White Americans' willingness to address inequality with Asian and African Americans (Bikmen & Durkin, 2014)	M	104	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Perceived discrimination against OG; preference for power vs. commonality talk to OG members	NO	n/a	NO	n/a	NO	n/a	YES	NO
	M	233	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Perceived discrimination against OG; preference for power vs. commonality talk to OG members	NO	n/a	NO	n/a	NO	n/a	YES	NO
Distinctiveness threat and prototypicality: combine effects on intergroup discrimination and collective self-esteem (Jetten et al., 1997)	BS	106	university	none	intergroup similarity	Discriminative behavior against OG	NO	n/a	NO	n/a	NO	n/a	YES	NO

							Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Reactions to threatening critical messages from minority group members with shared or distinct group identities (Wirtz & Doosje, 2013)	BS	124	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Evaluation of OG; Perceived intergroup similarity; Hostile emotions (particular)	NO	n/a	NO	n/a	NO	n/a	YES	NO
	BS	67	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Evaluation of OG; Perceived intergroup similarity; hostile emotions (particular)	NO	n/a	NO	n/a	NO	n/a	YES	NO
	BS	62	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Evaluation of OG; perceived intergroup similarity; hostile emotions (particular)	NO	n/a	NO	n/a	NO	n/a	NO	n/a
How the interplay of imagined contact and first-person narratives improves attitudes toward stigmatized immigrants: A conditional process model (Igartua et al., 2019)	BS	417	ethnic, racial, national, religious	power	intergroup similarity	Discrimination intentions against OG; Immigration attitude	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
When criticism is ineffective: The case of historical trauma and unsupportive allies (Hirschberger et al., 2017)	BS	133	ethnic, racial, national, religious	conflict	Common ingroup identity (vs. Separate groups)	Reconciliation attitude	NO	n/a	NO	n/a	NO	n/a	NO, modelled after existing	n/a
Changing "us" and hostility towards "them" - implicit theories of national identity determine prejudice and participation rate in an anti-immigrant petition (Bauer & Hannover, 2020)	BS	225	ethnic, racial, national, religious	power	identity permeability	Prejudice; Collective action against OG	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO
	BS	225	ethnic, racial, national, religious	power	identity permeability	Prejudice; Collective action against OG	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO
Dual identity and prejudice: The moderating role of group boundary permeability (Shi et al., 2017)	BS	71	residential	power	Dual identity (vs. Separate groups)	Prejudice	NO	n/a	NO	n/a	NO	n/a	YES	NO
	BS	132	residential	power	Dual identity (vs. Separate groups)	Prejudice	NO	n/a	NO	n/a	NO	n/a	YES	NO
Does a common identity reduce weight bias? Only when discrimination is salient (Brochu et al., 2020)	BS	225	body-related	none	Common ingroup identity (vs. Separate groups)	Prejudice	NO	n/a	NO	n/a	NO	n/a	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
The effects of group identity, group choice, and strength of group identification on intergroup sensitivity (Morier et al., 2013)	BS	72	university	none	intergroup similarity	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
Superordinate and subgroup identification as predictors of intergroup evaluation in common ingroup context (Stone & Crisp, 2007)	BS	65	ethnic, racial, national, religious	none	Common ingroup identity (vs. Separate groups)	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
Towards tolerance: Representation of superordinate categories and perceived ingroup prototypicality (Waldzus et al., 2003)	BS	63	ethnic, racial, national, religious	none	superordinate identity representations	Prejudice	NO	n/a	NO	n/a	NO	n/a	YES	NO
Ingroups, outgroups, and the gateway groups between: The potential of dual identities to improve intergroup relations (Levy, Saguy, van Zomeren, et al., 2017)	BS	175	ethnic, racial, national, religious	conflict	Dual identity (vs. Separate groups)	Discriminative behavior against OG; Support of discrimination against OG	NO	n/a	NO	n/a	YES	YES	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Understanding how common ingroup identity undermines collective action among disadvantaged-group members (Ufkes et al., 2016)	BS	117	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Collective action against OG; Hostile emotions (particular); Group efficacy beliefs	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	150	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Collective action against OG; Hostile emotions (particular); Group efficacy beliefs	NO	n/a	NO	n/a	NO	n/a	YES	YES
The conflict of harmony: Intergroup contact, commonality, and political solidarity between minority groups (Glasford & Calcagno, 2012)	BS	41	ethnic, racial, national, religious	none	Common ingroup identity vs. Dual identity	Solidarity with OG	NO	n/a	YES, as MC	NO	NO	n/a	YES, as a DV	NO
	BS	74	ethnic, racial, national, religious	none	Common ingroup identity vs. Dual identity	Solidarity with OG	NO	n/a	NO	n/a	NO	n/a	YES	NO
Seeking help from the low status group: Effects of status stability, type of help and social categorization (Halabi et al., 2014)	BS	127	professional	none	Common ingroup identity (vs. Separate groups)	Seeking help from OG	NO	n/a	NO	n/a	YES, as MC	NO	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
E pluribus unum: Dual identity and minority group members' motivation to engage in contact, as well as social change (Glasford & Dovidio, 2011)	BS	49	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Contact motivation; Reconciliation attitudes	NO	n/a	NO	n/a	NO	n/a	PILOT	n/a
The dark side of heterogenous ingroup identities: National identification, perceived threat, and prejudice against immigrants (Falomir-Pichastor & Frederic, 2013)	BS	130	ethnic, racial, national, religious	power	ingroup heterogeneity	Perceived OG threat	NO	n/a	NO	n/a	NO	n/a	PILOT	n/a
	BS	93	ethnic, racial, national, religious	power	ingroup heterogeneity	Perceived OG threat; Prejudice	NO	n/a	NO	n/a	NO	n/a	YES	no
Defensive helping: Threat to group identity, ingroup identification, status stability, and common group identity as determinants of intergroup help-giving (Nadler et al., 2009)	BS	92	schools, universities	none	Common ingroup identity vs. Dual identity	Solidarity with OG	NO	n/a	NO	n/a	NO	n/a	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Intergroup helping as status relations: Effects of status stability, identification, and type of help on receptivity to high-status group's help (Nadler & Halabi, 2006)	BS	56	schools, universities	none	ingroup identification	Seeking help from OG	NO	n/a	NO	n/a	NO	n/a	YES	NO
"Crime against humanity" or "Crime against Jews"? Acknowledgment in construals of the Holocaust and its importance for intergroup relations (Vollhardt, 2013)	BS	163	ethnic, racial, national, religious	post-conflict	Common ingroup identity vs. Dual identity	Solidarity with OG	YES	7	YES	NO	NO	n/a	YES	NO
Responses to endorsement of commonality by ingroup and outgroup members: The roles of group representation and threat (Gómez et al., 2013)	BS	55	ethnic, racial, national, religious	symbolic	superordinate identity representations	Solidarity with OG	NO	n/a	NO	n/a	YES	NO	YES	NO
	BS	70	ethnic, racial, national, religious	symbolic	superordinate identity representations	Solidarity with OG	NO	n/a	NO	n/a	YES	NO	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Divided loyalties: Perceptions of disloyalty underpin bias toward dually-identified minority-group members (Kunst et al., 2019)	BS	348	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Loyalty of OG member; Outgroup feelings (general)	NO	n/a	YES, as AC	YES	NO	n/a	NO	n/a
	BS	116	ethnic, racial, national, religious	power	Common ingroup identity vs. Dual identity	Loyalty of OG member; Support of discrimination against OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	310	ethnic, racial, national, religious	symbolic	Common ingroup identity vs. Dual identity	Evaluation of OG	NO	n/a	YES	YES	NO	n/a	YES, as a DV	NO
	BS	346	ethnic, racial, national, religious	symbolic	Common ingroup identity vs. Dual identity	Evaluation of OG	NO	n/a	YES	YES	NO	n/a	YES	NO
	BS	258	footbal fans	symbolic	Common ingroup identity vs. Dual identity	Outgroup feelings (general); Outgroup trust	NO	n/a	YES	NO	NO	n/a	YES	NO
The impact of adopting ethnic or civic conceptions of national belonging for others' treatment (Wakefield et al., 2011)	BS	80	ethnic, racial, national, religious	none	Dual identity (vs. Separate groups)	Criticism reception	NO	n/a	NO	n/a	NO	n/a	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Subgroup relations: A comparison of Mutual intergroup differentiation and Common ingroup identity models of prejudice reduction (Hornsey & Hogg, 2000)	BS	178	university	none	Common ingroup identity vs. Dual identity	Ingroup favoritism	NO	n/a	NO	n/a	NO	n/a	YES	NO
	BS	135	university	none	Common ingroup identity vs. Dual identity	Contact motivation	NO	n/a	NO	n/a	NO	n/a	YES	NO
Predicting intergroup bias: The interactive effects of implicit theory and social identity (Hong et al., 2004)	BS	77	ethnic, racial, national, religious	none	Common ingroup identity (vs. Separate groups)	Prejudice	YES	0	NO	n/a	NO	n/a	NO	n/a
Crossed categorization in common ingroup contexts (Crisp, Walsh, et al., 2006)	BS	50	ethnic, racial, national, religious	none	Common ingroup identity (vs. Separate groups)	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	YES	NO
I know (what) you are, but what am I? The effect of recategorization threat and perceived immutability of prejudice (Fritzlen et al., 2020)	BS	82	ethnic, racial, national, religious	power	identity threat	Prejudice; Implicit prejudice; Intergroup similarity	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	156	sexual orientation	power	identity threat	Prejudice; Implicit prejudice; Intergroup similarity	NO	n/a	NO	n/a	NO	n/a	NO	n/a

							Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Recategorization and subgroup identification: Predicting and preventing threats from common ingroups (Crisp, Stone, et al., 2006)	BS	75	university	none	Common ingroup identity (vs. Separate groups)	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	64	ethnic, racial, national, religious	none	Common ingroup identity (vs. Separate groups)	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	38	ethnic, racial, national, religious	none	Common ingroup identity (vs. Separate groups)	Prejudice (implicit)	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	101	university	none	Common ingroup identity vs. Dual identity	Evaluation of OG	NO	n/a	NO	n/a	NO	n/a	NO	n/a
Kompleksnost i inkluzivnost socijalnog identiteta kao posrednici uticaja socijalne norme na odnos prema nepripadničkim grupama (Đorđević, 2020)	WS	40	ethnic, racial, national, religious	post-conflict	identity complexity	Outgroup feelings (general); Contact motivation	NO	n/a	YES	NO	YES	NO	YES	NO

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Negative evaluations of national ethics and its impact on Islamic radicalization (Ludigdo & Mashuri, 2021)	BS	583	ethnic, racial, national, religious	power	Dual identity (vs. Separate groups)	Hostile emotions (particular); Prejudice; Discriminative behavior against OG	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO
Boundaries to the gateway effect: Perceived dual identity integration shapes the role of biculturals in inter-ethnic relations (Ninković & Žeželj, 2022)	BS	196	ethnic, racial, national, religious	post-conflict	gateway groups	Outgroup feelings (general)	NO	n/a	NO	n/a	YES	YES	YES	NO
Awareness of Common Humanity Reduces Empathy and Heightens Expectations of Forgiveness for Temporally Distant Wrongdoing (Greenaway et al., 2012)	BS	41	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Reconciliation attitude	NO	n/a	NO	n/a	NO	n/a	YES	NO
	BS	73	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Reconciliation attitude	NO	n/a	NO	n/a	NO	n/a	NO	n/a
	BS	70	ethnic, racial, national, religious	power	Common ingroup identity (vs. Separate groups)	Reconciliation attitude; Outgroup empathy	NO	n/a	NO	n/a	NO	n/a	NO	n/a

Title, authors & year	design	N	groups	intergroup conflict	IV	DV	Suspicion probes (SP)		Comprehension checks (CC)		Plausibility checks (PC)		Manipulation checks (MC)	
							Reported	Exclusions	Reported	Exclusions	Reported	Exclusions	Reported	Exclusions
Complex social identities and intergroup relations (Levy, Žeželj, et al., 2019)	BS	207	ethnic, racial, national, religious	post-conflict	gateway groups	Intergroup similarity; Contact motivation	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO
	BS	174	ethnic, racial, national, religious	post-conflict	gateway groups	Intergroup similarity; Contact motivation	NO	n/a	NO	n/a	NO	n/a	YES, as a DV	NO

The use of validity checks

A total of 40 analyzed experiments (67%) used at least one kind of validity check. The most frequently used was manipulation check (62% of analyzed experiments), defined as a measure of focal construct, i.e., the one that is intended to be manipulated (Gruijters, 2022). Frequency of validity checks use is detailed in Table 3.

Table 3

Validity checks reported in the analyzed studies

	Manipulation check	**Comprehension check**	**Plausibility check**	**Suspicion probe**
Reported correctly	48% (29 experiments)	8% (five experiments)	8% (five experiments)	5% (3 experiments)
Reported differently	13% reported as a dependent variable (8 experiments)	5% reported as manipulation / attention check (three experiments)	2% reported as manipulation check (one experiment)	0
Not reported	7 % Piloted interventions (4 experiments) 7% interventions modelled after the existing one (4 experiments) 25% none of the above (15 experiments)	87% (52 experiments)	90% (54 experiments)	95% (57 experiments)

The frequency of manipulation checks usage in testing social-identity interventions (48% reported as such + the additional 13% reported as DVs) exceeds the expected ~35% based on the meta-analysis conducted by Chester and Lasko (2021). Here, it is important to note that, for each experiment, we inspected all the reported dependent variables. Thirteen per cent of studies reported the measure of focal construct – the one that the manipulation should directly affect – as a dependent variable. We coded these studies as *manipulation check reported differently*. Additionally, the interventions for four experiments were piloted, and the pilot samples were always drawn from the same population as the samples for the main experiments. Finally, for the other four experiments, the authors referred to the interventions that they used as models, which can be counted as some kind of pilot study. However, since they were not piloted on the same population, we coded them as a distinct category.

On the other hand, the usage of other checks is far less frequent. Only for five experiments (8%) did the authors report the results of comprehension checks. The additional three experiments did indeed have a comprehension check, reported either as a manipulation check (two experiments) or as an attention check (one experiment). Similarly, six experimental interventions were followed by a plausibility check, of which five were reported as such, whilst one was reported as a manipulation check. Finally, suspicion probes are rarely reported (5%), which we expected given that they are the most relevant for the experiments that use deception, which is not the case with a majority of social-identity experiments.

Validity checks in various conflict settings

All studies conducted in post-conflict and symbolic conflict contexts did include a manipulation check (Table 4). A similar trend is observed in the category where symbolic and power conflict are intertwined. As for power conflict, 60% of manipulations were either piloted or included

a manipulation check. However, this type of conflict was far more frequent than the others (42% compared to ≤10% in each other category), so it is not surprising that it contains the highest proportion of studies without any measure of focal construct. Further, in the context of ongoing intergroup conflict, one experiment contained the manipulation check, whilst another did not have any validity check. Finally, experiments conducted in the non-conflicted intergroup contexts had a smaller proportion of reported manipulation checks.

Table 4

Count of validity checks regarding the type of intergroup conflict

	Manipulation checks				**Comprehension checks**		**Plausibility checks**		**Suspicion probes**		
Intergroup conflict context	**YES**	**PILOT**	**modelled after existing**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**TOTAL**
Power conflict	11	4	3	7	2	23	0	25	1	24	25
Symbolic conflict	6	0	0	0	4	2	2	4	1	5	6
Post-conflict	4	0	0	0	1	3	2	2	0	4	4
Power & symbolic conflict	2	0	0	1	0	3	0	3	0	3	3
Conflict	1	0	1	0	0	2	1	1	0	2	2
none	13	0	0	7	1	19	1	19	1	19	20
TOTAL	37	4	4	15	8	52	6	54	3	57	60

Four out of six experiments in intergroup contexts charged with symbolic conflict reported a comprehension check. The remaining four comprehension checks were distributed across experiments in power conflict, post-conflict, and non-conflict contexts. As for plausibility checks, they were distributed across experiments conducted in symbolic conflict, post-conflict, conflict, and non-conflict settings. Finally, three reported suspicion probes were distributed equally across non-conflict, power-conflict, and symbolic conflict settings.

Validity checks regarding independent variables

Among the analyzed experimental interventions, a vast majority (63%) included imposing a common ingroup identity and contrasting it to either separate groups or dual identity (Table 5). Notably, the interventions from the latter category (common ingroup vs. dual identity) were more frequently subjected to manipulation checks compared to those that contrasted common ingroup identities to separate groups. Almost all the other categories of interventions were either subjected to manipulation checks, or to pilot testing.

Table 5

Count of validity checks regarding independent variable

Independent variable	Manipulation checks				Comprehension checks		Plausibility checks		Suspicion probes		TOTAL
	YES	PILOT	modelled after existing	NO	YES	NO	YES	NO	YES	NO	
Common ingroup identity vs. Separate groups	7	2	3	8	1	19	1	19	2	18	20
Common ingroup identity vs. Dual identity	12	1	1	4	6	12	0	18	1	17	18
Dual identity vs. Separate groups	4	0	0	0	0	4	0	4	0	4	4
Gateway groups	4	0	0	0	0	4	2	2	0	4	4
Intergroup similarity	3	0	0	1	0	4	0	4	0	4	4
Superordinate identity representations	3	0	0	0	0	3	2	1	0	3	3
Identity permeability	3	0	0	0	0	3	0	3	0	3	3
Ingroup heterogeneity	1	1	0	0	0	2	0	2	0	2	2
Identity threat	0	0	0	2	0	2	0	2	0	2	2
Identity complexity	1	0	0	0	1	0	1	0	0	1	1
Ingroup identification	1	0	0	0	0	1	0	1	0	1	1
TOTAL	39	4	4	15	8	54	6	56	3	59	62*

*Note. We counted checks for each independent variable; although 60 experiments were included, two of them had two IVs that manipulated social categorization, which makes it 62 in total.

Comprehension checks were almost exclusively used when contrasting common ingroup to dual identities. On the other hand, plausibility checks were distributed across several categories of IVs: two out of four experiments using the gateway group paradigm, two out of three manipulating the representation of superordinate identities, one contrasting common ingroup identity to separate identities, and one manipulating social identity complexity. Finally, suspicion probes were reported in studies imposing a common ingroup identity.

Participant exclusion based on validity checks

The last aim of this study was to examine the practices of participant exclusion based on validity checks. As detailed in Table 6, this practice is not quite frequent in experiments testing social-identity interventions. However, given the small number of studies that even included comprehension and validity checks, we cannot unambiguously conclude what the standard in the field would be.

Table 6

Participants exclusions based on validity checks

	exclusions	studies using validity checks for exclusion (% excluded)	no exclusions	no check
Manipulation checks	1	i. Ufkes et al., 2016 (2%)	36	23
Comprehension checks	4	i. Kunst et al., 2019, Study 1 (7%) ii. Kunst et al., 2019, Study 3 (10%) iii. Kunst et al., 2019, Study 4 (12%) iv. Schmader et al., 2013, Study 2 (not reported)	4	52
Plausibility checks	2	i. Ninković & Žeželj, 2022, Study 2 (26%) ii. Levy et al., 2017, Study 4 (2%)	4	54
Suspicion probes	3	i. Hong et al., 2004, Study 2 (0%) ii. Vollhardt, 2013 (4%) iii. Schmader et al., 2013, Study 2 (1%)	0	57

We did not identify exclusions based on validity checks to be high. In fact, only in two experiments did the rate of excluded participants exceed 10% of the final sample size[19] (Kunst et al., 2019, Study 3; Ninković & Žeželj, 2022, Study 2). Both these experiments used vignettes to manipulate participants' perception of minority group members' social identity, and in both was manipulation content subject to motivated reasoning. In other words, it might have happened that participants' beliefs and attitudes affected their understanding of intervention content; however, we can only speculate about it.

Systematic literature review: Discussion

The aim of this study was twofold. First, we intended to analyze how often researchers use validity checks – suspicion probes, comprehension-, plausibility-, and manipulation checks – when experimentally studying the social-identity interventions for intergroup bias reduction. Second, we focused on practices of excluding participants who fail these checks from the analyses of such interventions' effects.

A recent review of manipulation check use in socio-psychological experiments indicated that such a validity check was reported only for around one-third of analyzed experiments (Chester & Lasko, 2021). However, our review shows that the situation is better when the spotlight is on social-identity experiments for intergroup bias reduction. In total, 62% of the experiments that we analyzed measured the focal construct (i.e., the one that is intended to be manipulated with the intervention). An additional 13% of experiments applied interventions that were either pilot-tested on the samples from the same population or at least modelled after the existing, previously tested interventions. Only a quarter of analyzed experiments did not mention either manipulation checks or previous tests of the interventions used. This finding demonstrates that the effectiveness of social-identity interventions for intergroup bias reduction is profoundly tested before the findings are generalized beyond the particular sample of participants. In other words, our results show that processes that underlie the potential of these interventions to reduce intergroup bias are empirically established. This seems to be true regardless of aspects of social categorization that are manipulated, as detailed in Table 5.

[19] Since some authors do not report initial (pre-exclusions) sample size, we calculated the proportion of excluded participants relative to the final (post-exclusions) sample size.

The situation is far less optimistic when we look into comprehension- and plausibility checks. Plausibility checks are reported for only 10% of the analyzed experiments, and the frequency of comprehension checks is only slightly higher (13%). Since, to our knowledge, this is the first study that reviewed the usage of these two validity checks, we cannot compare these frequencies to anything but manipulation checks usage. It seems that, whilst social-identity researchers are well aware of the importance of measuring focal constructs after applying an experimental intervention, they tend to neglect the role of cognitive processing of intervention content. In other words, we rarely check whether our participants understood and believed the content that was created to make them redefine the current boundaries of social categories and, consequently, reduce intergroup bias.

Why is this particularly important? Although they sometimes only serve the purpose of testing a hypothesized process, socio-psychological interventions are being created to eventually be scaled-up and applied in a real-world environment. To this end, interventions are first tested in controlled environments to examine their causal relation to the construct of interest – in this case, intergroup bias. However, apart from demonstrating such a relation, it is essential to examine whether the content of interventions is understandable (comprehension checks) and believable enough (plausibility checks). Furthermore, it is important to take into account that the content that is sound for one intergroup context might be completely unsuitable for another. Our analysis revealed that this aspect is undermined in the experiments focused on social-identity interventions for intergroup bias reduction.

This leads us to the second aim of this study – the practice of excluding participants who do not find the intervention content understandable and/or plausible. Since only a small portion of analyzed experiments did use comprehension- and plausibility checks, we can hardly draw any conclusions about this practice. However, few studies that used these validity checks as a basis for sample reduction indicate that the content of social-identity interventions is not unequivocally reasonable and acceptable to people. Furthermore, researchers draw conclusions from these studies after excluding participants who failed validity checks, meaning that the results could have been different if the analyses were conducted on whole samples. Although, for the purposes of initial evidence on interventions' effectiveness, it is easier to keep only those participants who understood their content and accepted it as true, it is not clear how these interventions would affect intergroup bias if applied outside the experimental setting. In other words, we have no idea who the individuals who rejected the intervention content in terms of their social identities, ideological beliefs, or intergroup attitudes are. It might be, although we cannot know, that the intervention content is least acceptable for people whose attitude we want to change – prejudiced ones with conservative worldviews and rigid social identities. In fact, there is evidence that the interventions for intergroup bias reduction should be tailored differently for different groups of people regarding their ideological beliefs (Bar-Tal & Hameiri, 2020). This means that the researchers of intergroup bias should be aware of the influence that individuals' prior beliefs and attitudes can have on their responsiveness to interventions.

Given that some questions we asked in the beginning of this chapter remained unanswered, in the next chapter, we will experimentally examine the relationship between individuals' social identities, beliefs, and attitudes and their responsiveness to social-identity interventions in terms of understanding, plausibility, and effectiveness.

4. Study 2: Plausibility and effectiveness of two dual-identity interventions

In Study 1, we explored how validity checks are used in testing of social-identity interventions for intergroup bias reduction, with focus on the interventions whose understanding, believability, and effectiveness can be affected by individuals' beliefs and attitudes. We demonstrated that the interventions effectiveness testing, by using manipulation checks, is more frequent than in socio-psychological experiments in general (Chester & Lasko, 2021). On the other hand, only for a small number of experiments were plausibility- and comprehension checks reported. However, as we demonstrated in the example of Storz and colleagues' (2022) study, participants' understanding of intervention content can be influenced by their beliefs. The same should be true for the plausibility of intervention content.

Therefore, in this study, we examined whether the individual differences relevant for intergroup behavior moderate plausibility assessment and effectiveness of social-identity interventions. To this end, we used two dual-identity interventions that employ the gateway group paradigm (Levy, Saguy, van Zomeren, et al., 2017). We chose this paradigm for multiple reasons. First, acceptance of the intervention content as true and plausible is a prerequisite for their effectiveness. Second, it has been tested in various conflict- and post-conflict settings (Israel, Serbia, Bosnia and Herzegovina, USA) and was proven to reduce the intergroup bias. In (post-) conflict settings, such light-touch interventions are convenient both for testing and further application, since they are less likely to backfire than the interventions that use direct contact. Finally, dual-identity interventions can be upscaled and used as a rhetorical device to encourage minority members' identification with the majority group and further promote their gateway potential[20]. Additionally, the gateway group paradigm allowed us to tailor the intervention from the two different perspectives and compare how these different types of dual-identity intervention resonated with participants taking into account their prior beliefs.

Gateway group paradigm

This paradigm relies on the potential of groups and individuals with complex social identities to promote positive intergroup attitudes (Levy, Saguy, van Zomeren, et al., 2017). The main idea of this paradigm is that the individuals who identify with two adversarial groups can act as a bridge between them. For example, Bosniak citizens of Serbia can simultaneously identify with their ethnicity (Bosniaks) and with the country they live in (Serbia). Therefore, both Serbian citizens (regardless of their ethnicity) and members of Bosniak ethnic group (regardless of their citizenship) should have the basis to identify with them, which makes them a *gateway group*. The following underlying mechanism of bias reduction using the exposure to gateway group is proposed: when members of a majority group (Serbs from Serbia) learn that Bosniaks from Serbia identify strongly with both Bosniak and Serbian groups, they should start perceiving them as a partial ingroup; this should further open them up for accepting the Bosniak part of the gateway group's complex identity; finally, this acceptance should generalize to all Bosniaks, regardless of their citizenship (see Figure 3).

Unlike the classic social-identity paradigms, this kind of intervention does not require the individuals to change their own social categorization, or to redefine their social identity boundaries. Instead, what the gateway group interventions affect is how the members of the majority group perceive the minority members' identity. By learning that most minority members hold dual identity, majority members increase identification with them. This serves as a basis for the manifestation of ingroup favoritism towards the gateway group, which then generalizes on the outgroup component of its dual identity, and further on the outgroup as a whole.

[20] A prominent example is Barack Obama's speech addressed to the Muslim community in the USA. To show his full acceptance of the community, he said: "You're not Muslim or American. You're Muslim and American." (https://obamawhitehouse.archives.gov/the-press-office/2016/02/03/remarks-president-islamic-society-baltimore)

Previous studies demonstrated that promoting the gateway role of the groups with complex identities can reduce bias in the post-conflict contexts (Levy et al., 2019; Ninković & Žeželj, 2022), as well as in the context of intractable conflict (Levy et al., 2017). These studies provided evidence of the hypothesized process of identification with the gateway group that underlies bias reduction (Levy et al., 2017, Ninković & Žeželj, 2022). The most recent experimental tests of the gateway effect also revealed that there are boundary conditions for its success: the gateway group's identity must be described not only as complex, but also as integrated. i.e. non conflicted – gateway group members must be portrayed as feeling harmony between their two identity components. If, on the other hand, they are described as having a complex identity, but feeling uncomfortable about it, the gateway effect does not occur (Ninković & Žeželj, 2022).

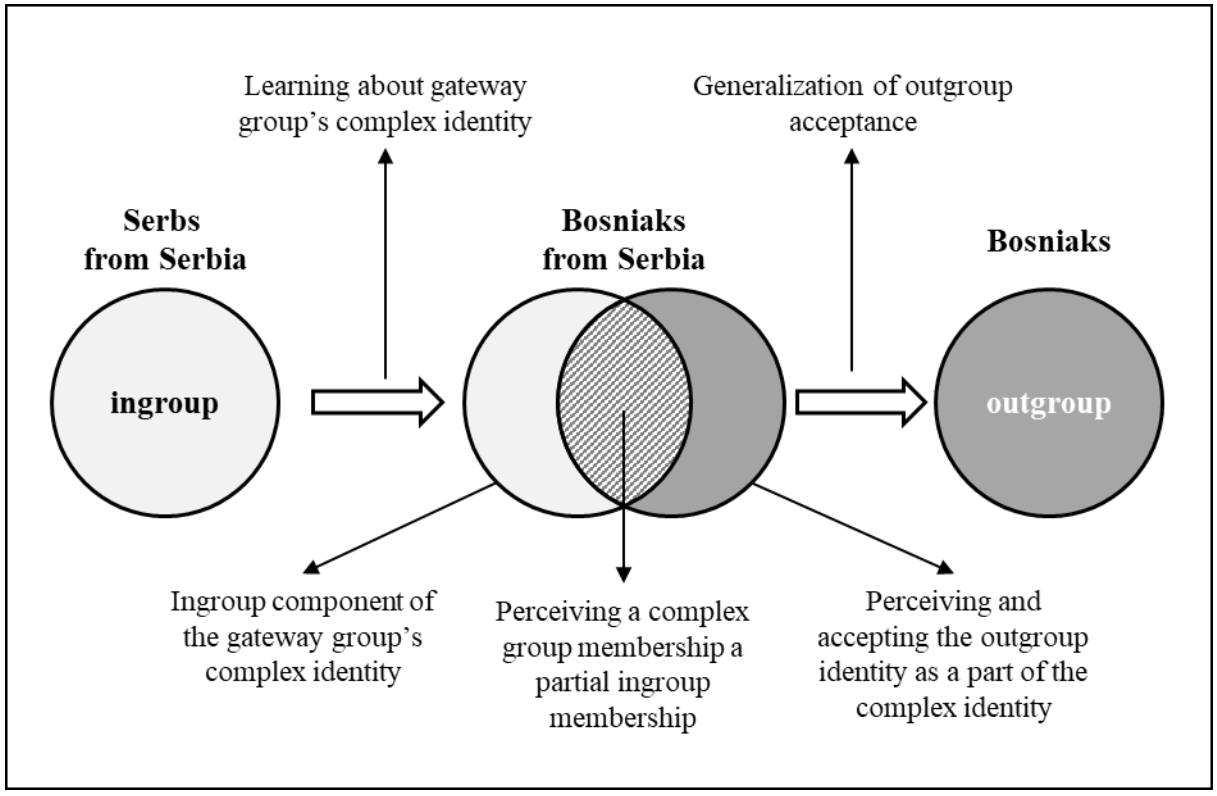


Figure 3. *The proposed process of bias reduction using the gateway group paradigm*

The findings about boundary conditions to the gateway effect indicate that the success of this paradigm is more restricted than it was initially thought. However, the experiment that pointed out the boundary conditions had a severe limitation regarding the final sample: as reported by the authors, 26% of the recruited participants have been excluded from the analysis due to the relatively low assessment of the intervention content plausibility (Ninković & Žeželj, 2022). Therefore, we know that the gateway intervention reduces intergroup bias when a) the gateway group members are portrayed as having an integrated dual identity and b) participant assess the intervention content as plausible[21]. Whilst the first condition was experimentally manipulated, the second one emerges from the interaction between the intervention content and some (unknown) characteristics of the participants. Therefore, the first aim of the Study 2 of this thesis is to explore the individual characteristics that can make individuals more or less prone to assess the content of such intervention as plausible, and to further perceive the gateway group's identity as a complex one.

[21] There is no evidence of what happens with the effect when the data is re-analyzed with this 26% of the participants included.

Furthermore, we aimed to explore whether some individuals would respond better to a different framing of the same intervention content. All previously published studies that demonstrated the success of the gateway groups paradigm used the vignettes representing a report of an ostensible research study on minority identity in a given country. The text described that, when asked about their ethnic and national identification, over 80% of the minority group members (e.g., Bosniaks from Serbia) said that they feel equally strongly identified with both their ethnic group and their country, and that they do not want to separate these two identities. In other words, the intervention has typically been framed from the *outgroup perspective*, emphasizing how the members of minority group feel about their identity, and using that knowledge to affect the majority members' perception.

However, in real life, information about how the outgroup members experience their identities is unlikely available, especially in the contexts of strained intergroup relations. What is more likely to be available, on the other hand, is how our fellow ingroup members *perceive* the minority group's identity. Although the ingroup members' perception of the outgroup members' identity does not have to reflect their real experienced identities, it can set the descriptive norm about how their identity is most often perceived by the ingroup. There is ample evidence that ingroup norms shape intergroup behavior (Jetten et al., 1996; Smith & Louis, 2008; White et al., 2021). There is even evidence that learning of the ingroup attitudes towards outgroup can shape personal attitudes towards outgroup: that the perception of ingroup-outgroup similarity is a norm can reduce prejudice towards the outgroup (Đorđević, 2020). Therefore, we argue that setting the norm about ingroup members' perception of gateway group's complex identity should elicit the gateway effect similar to the already tested gateway intervention. Thus, we contrasted the intervention that employs a descriptive norm – the one framed from the *ingroup perspective* – to the typical gateway intervention that is framed from the outgroup perspective. For easier understanding, we will label the two interventions as follows: a) *Ingroup norm intervention* and b) *Outgroup experience intervention*.

Not only that differently framed interventions might be assessed as differently plausible or have a different potential for affecting dual identity perception, but they might also be unequally effective for different individuals. We already discussed the studies that have shown that intergroup interventions should be tailored separately for distinct ideological groups, especially in the contexts of violent conflict (Hameiri et al., 2016; Nir & Halperin, 2024). For example, a field experiment conducted by Hameiri and colleagues (2016) revealed that the intervention employing paradoxical thinking principles effectively reduced conflict-supporting attitudes among right-wing Israelis, but not among the centrists. Moreover, Nir and Halperin (2024) demonstrated that slight changes in intervention content framing can shift its effectiveness from one ideological group to another. Having in mind that, to be effective, the interventions must match the psychological needs of the target group, they tested three types of intervention aimed at increasing the support for social equality in the context of Israeli-Palestinian conflict. They argued that each intervention targeted the specific needs of each of ideological groups: conservatives, centrists, and liberals (Nir & Halperin, 2024). The results were in line with their hypotheses: conservatives were responsive to the intervention that employed meta-perception (what minority group members think about social equality), which they argued to have reduced their perception of outgroup threat. Centrists responded best to the intervention that set the ingroup norm about social equality support, since they are prone to avoid confrontation and value social consensus. Finally, liberals were the most responsive to the intervention that emphasized human adaptability, since the first two intervention types were expected to be redundant for them (Nir & Halperin, 2024). These findings confirm that individual differences in ideological orientation play a significant role in the effectiveness of intergroup interventions.

Relevance of individual characteristics for intergroup interventions

Although important, ideological orientation is certainly not the only individual characteristic that can moderate the success of intergroup interventions. Although it is broad and can serve as a proxy for many other characteristics relevant to social behavior, there are other characteristics that can impact interventions' effectiveness as well.

Strength of ingroup identification represents one of the key characteristics in intergroup relations – a degree of importance that an individual ascribes to her or his particular social identity (Tropp & Wright, 2001). Espinosa and colleagues (2018) demonstrated that the degree to which ingroup identification will be expressed in social interactions is a function of its importance for one's personal identity – i.e., of the strength of identification. For individuals who are strongly identified with their ingroup, it is important to preserve the positive image of their own group, which makes them more likely to exhibit intergroup bias (Crisp & Beck, 2005). Given that strength of ingroup identification partly determines the degree of adherence to ingroup norms (Livingstone et al., 2011), and having in mind the nature of interventions in the current study, it is reasonable to assume that the intervention framed from the ingroup perspective would be particularly appealing for strong ingroup-identifiers.

Perspective taking represents an active consideration of other individuals' mental states (Todd & Galinsky, 2014). In the context of inter-ethnic relations, ethnic perspective taking is viewed as a component of ethnocultural empathy – empathy for individuals of different ethnic or racial backgrounds (Wang et al., 2003). Here, perspective taking is operationally defined as ease to understanding how ethnic or racial minorities feel in a setting that diverges from their original cultural background (Wang et al., 2003). So far, empirical studies demonstrated an important role of perspective taking in intergroup relations: the interventions that prompt individuals to think about outgroup members' mental states reduce intergroup bias (see Todd & Galinsky, 2014 for a review). Recent studies also demonstrated the role of dispositional perspective taking in the effectiveness of intergroup interventions (Szekeres et al., 2024). In the context of our dual identity interventions, (dispositional) perspective taking might be especially important for the intervention framed from the outgroup perspective.

Perceived outgroup threat refers to the idea that outgroup is dangerous for the ingroup in either realistic (i.e., outgroup might take over the ingroup's resources) or symbolic (i.e., outgroup seems to threaten the ingroup's values) manner (Stephan et al., 2015). Such an idea is especially prominent in the contexts of past or ongoing intergroup conflict. Regardless of whether the threat really exists, individuals who perceive an outgroup as threatening are more likely to be prejudiced and express discrimination intentions against its members (see Stephan et al., 2015 for a review). Importantly, perceiving outgroup as threatening decreases trust in outgroup members (Schmid et al., 2014). For our dual identity interventions, individuals higher on perceived threat might be more likely to reject the content of the intervention framed from the outgroup perspective.

Aims of Study 2

Taking all said into account, we aimed to examine how individuals assess plausibility of two dual identity interventions – one framed from ingroup perspective and the other framed from outgroup perspective. We also examined the potential of these two interventions to induce the idea of gateway group's dual identity. Finally, we explored whether individual differences in ideological orientation, strength of ingroup identification, perspective taking, and perceived outgroup threat moderate assessed plausibility and dual identity perception.

To this aim, we conducted four experiments. In the pilot experiment, using a between-subjects design, we contrasted two intervention types[22] – *Ingroup norm intervention and Outgroup experience intervention* – regarding assessed plausibility and dual identity perception. To get a deeper understanding of possible aspects of intervention types that make them less plausible to participants, we asked them to elaborate the reasons they found the intervention content problematic and used that output to improve interventions' content in the further experiments. We also examined how individual differences impacted assessed plausibility and dual identity perception. Finally, we adapted the

[22] Since these two interventions have the same content, but framed from different perspectives, we will refer to them as two *intervention types* from now on.

content of both interventions based on the participants' arguments for their implausibility. The adapted interventions were used in experiments 1-3.

In experiments 1-3, we further examined the patterns obtained in the pilot experiment, using the samples from three groups in the post-conflict context of ex-Yugoslavia. Three experiments were the same regarding design and procedure but varied in the particular intergroup setting which we will explain later in this chapter. In each of these experiments, we examined:

1. The assessed plausibility of the two intervention types
2. Effectiveness of the two intervention types in inducing the gateway group's dual identity perception
3. Potential moderators of assessed plausibility – individual differences in ideological orientation, strength of ethnic identification, perspective taking, and outgroup threat perception
4. Potential moderators of dual identity perception (same as the moderators of assessed plausibility)
5. Relation between assessed plausibility and dual identity perception

To this aim, we conducted four experiments: pilot and three main experiments. We will first report the method and results of pilot experiment, and then focus on the hypotheses, method, and results of the three main experiments.

Pilot experiment

Method

Design and procedure

To make sure that the measures of individual differences were not contaminated by experimental intervention, we first asked participants to fill in the scales that measure our proposed moderators.

The following measures all used a 7-point Likert scale (1 – *completely disagree*; 7 – *completely agree*).

Ingroup identification was assessed using the following three items: 'I feel Serbian'; 'Being Serbian is an important part of my identity', and 'I identify with other Serbs' (Storz et al., 2020). Higher scores indicated a higher degree of ingroup identification. The scale showed good reliability (Cronbach's $\alpha = .86$; $\omega = .86$).

Perspective taking was measured using the Perspective taking subscale (seven items) from the Scale of ethnocultural empathy (Wang et al., 2003). The scale did not show satisfying reliability ($\alpha = .64$, $\omega = .67$). After the exclusion of the three items that loaded < .30 on principal component, reliability exceeded .70 ($\alpha = .75$, $\omega = .75$), so we used the four-item version in the analyses. Higher scores indicated higher levels of perspective taking.

Outgroup threat perception was measured using nine items constructed after the Intergroup threat theory (Stephan et al., 2015) that distinguishes two types of perceived threat: realistic and symbolic. Four items captured realistic threat perception, whilst five of them measured symbolic threat. The two subscales were highly correlated ($r = .76$, $p < .001$). Moreover, the principal component analysis revealed that all the items loaded on the principal component, with the lowest loading of .51, suggesting that a single score of threat should be calculated. Thus, we used *outgroup threat perception* in the analyses. The scale showed excellent reliability ($\alpha = .91$, $\omega = .91$). Higher scores indicated higher levels of perceived threat.

After filling in the scales, participants were randomly assigned to either *ingroup norm* or *outgroup experience* experimental conditions (a single-factor between-subjects design) and exposed

to the vignette with the text (~370 words) describing ostensible research about the identity of Bosniaks from Serbia from either Serbian (ingroup) or Bosniak (outgroup) perspective. The *ingroup norm* vignette described that the most of Serbs perceive Bosniaks from Serbia as strongly identified with both Serbian nationality and Bosniak ethnicity, and that they are an indispensable part of Serbian nation. The *outgroup experience* vignette described that the majority of Bosniaks from Serbia feel equally strong attachment to their ethnic (Bosniak) identity and to Serbian nation. The full texts are available in Appendix B.

A comprehension check (*What was the text about?*) followed the experimental intervention. Then, participants were asked to assess plausibility of the read text using two items (1. *To what extent do you think the content of the text is true?* and 2. *How plausible do you find the text that you have just read?*). Participants answered on a 6-point scale. Those whose answer on any of the two items was lower than 5 were asked to elaborate why did they found the text implausible, and we analyzed the content of their answers. We calculated the mean score of plausibility by averaging the two items.

To measure their *dual identity perception*, we asked the participants indicate to what extent did they find Bosniaks from Serbia identified with 1) Serbian nationality, and 2) Bosniak ethnicity. Score of dual identity perception was calculated using the formula by Levy and the colleagues (2017)[23]. Higher scores indicated higher perception of the gateway group as dually identified.

Demographic variables (age, gender, ethnicity), ideological orientation, and religiosity were registered in the end. *Ideological orientation* was assessed using a single item of ideological self-placement on an 11–point scale (1 – far left; 6 = center; 11 = far right). To make sure that participants have in mind the social axis of ideological values, we explained the positions of far left and far right in the context of values. As an additional control, we also asked them to position themselves on the economic axis of ideological values, but we did not consider it in further analysis. Religiosity was assessed using a single item (*How religious are you?*) on a 7-point scale.

The experiment was distributed using Sosci Survey platform (Leiner, 2021).

Participants

A total of 187[24] students (68% women) from the University of Belgrade participated in exchange for course credits. Their age ranged from 18 to 35 years (M = 21.2, SD = 2.2). All of them lived in Serbia and self-identified as ethnic Serbs. The level of their self-reported religiosity was moderate (M = 3.6, SD = 1.9 on a 7-point scale).

Data analysis plan

Preliminary analyses

We first looked into the frequencies of correct answers on comprehension checks, as well as the distributions of answers on two plausibility checks. Then we analyzed the differences between the participants who assessed plausibility as relatively low (4 or lower) and those who assessed it as high (5 or 6) regarding their ideological orientation, ethnic identification, perspective taking, and perceived threat.

Content analysis

We analyzed the content of the participants' elaboration of the reasons they found the text implausible. The two texts were analyzed separately given that their different aspects could have been perceived as untrue or implausible. The categories were identified following an inductive approach.

[23] (((GGIG + GGOG) - |GGIG – GGOG|))/200*100); GGIG – perception of the gateway group as an ingroup; GGOG – perception of the gateway group as an outgroup

[24] The analyses that took into account *dual identity perception* were conducted on N = 148 due to a technical problem during data collection.

Quantitative analysis

To test for the differences between intervention types in their a) plausibility assessment and b) dual identity perception, we used Student's T-test for independent samples. We also tested whether the plausibility of each intervention type is assessed as relatively high (higher than 4) using a one-tailed one-sample Student's T-test. Since this value represents the answer *more plausible than implausible*, it would be used as a cut-off score if plausibility served as an exclusion criterion. Following the same logic, we tested whether dual identity perception is higher than a midpoint of 50.

We then calculated Pearson's correlations between individual characteristics on one hand, and plausibility assessment and dual identity perception on the other. Correlations were calculated for each experimental condition separately and we looked into the differences between correlation patterns.

Finally, we built hierarchical linear regression models predicting a) plausibility assessment, and b) dual identity perception, primarily in order to calculate the effects for the power analysis for experiments 1-3. The first block of predictors served as control and consisted of gender, age and religiosity. In the second block, we introduced the intervention type. The third block consisted of the proposed moderators: ideological orientation, ethnic identification, perspective taking, and perceived threat. For the prediction of dual identity perception, plausibility assessment was also introduced as a predictor in the third block. In the final blocks, we introduced the interaction terms between intervention type and those variables of individual differences whose correlations with outcome variables differed between the experimental conditions.

All analyses were conducted using R software version 4.4.1 (R Core Team, 2023)

Results

Preliminary analysis

All participants (N = 187) passed the comprehension check, i.e. correctly identified the main topic of the text. Less than half of participants reported they found content of the interventions to be either untrue or implausible (see Table 7). Twenty-seven out of 44 participants assessed the content of Ingroup norm intervention as BOTH untrue and implausible. The remaining 16 participants assessed it as either untrue or implausible. As for the Outgroup experience intervention, 20 out of 38 participants assessed its content as both untrue and implausible, while the rest 18 assessed it as either untrue or implausible.

Table 7

Distribution of answers on plausibility checks in the pilot experiment

	Ingroup norm intervention		**Outgroup experience intervention**	
	true	**plausible**	**true**	**plausible**
1 (untrue / implausible)	0	0	0	3
2 (mostly untrue / mostly implausible)	3	3	3	1
3 (more untrue than true / more implausible than plausible)	9	6	6	4
4 (more true than untrue / more plausible than implausible)	23	26	21	20
5 (mostly true / mostly plausible)	39	43	37	46
6 (true / plausible)	20	16	26	19
TOTAL	94	94	93	93

We then looked into the differences in ideological orientation, ethnic identification, perspective taking, and threat perception between participants who assessed each of the interventions as relatively implausible and those who assessed them as relatively plausible. We found that those who found the content of ingroup norm intervention as relatively implausible perceived the outgroup as more threatening, compared to those who found this intervention plausible. We observed the same pattern for the outgroup experience intervention. Additionally, those who assessed this intervention as relatively implausible were lower in perspective taking compared to those who found it plausible (Table 8). On the other hand, participants who assessed the interventions as less plausible did not differ from those who assessed them as more plausible regarding ideological orientation and ethnic identification.

Table 8

Means and standard deviations of the proposed moderators across the categories of plausibility assessment

	Ingroup norm intervention			**Outgroup experience intervention**		
	Plausibility		Welch t-test	Plausibility		Welch t-test
	Low [M (SD)]	High [M (SD)]	t(df)	Low [M (SD)]	High [M (SD)]	t(df)
Ideological orientation	3.7 (2.4)	3.9 (2.8)	-0.43 (58.7), n.s.	4.9 (2.9)	3.9 (2.8)	1.40 (31.9), n.s.
Ethnic identification	5.4 (1.0)	5.2 (1.3)	0.69 (66.1), n.s.	4.8 (1.4)	5.3 (1.4)	-1.49 (32.3), n.s.
Perspective taking	5.4 (1.2)	5.4 (1.3)	0.12 (55.0), n.s.	4.5 (1.2)	5.5 (1.1)	-3.21 (29.2)**
Threat perception	3.2 (1.4)	2.5 (1.3)	2.19 (46.6)*	3.6 (1.5)	2.6 (1.1)	2.95 (26.2)**

Note. $^{**}p < .01$; $^{*}p < .05$; n.s. – non-significant.

Note. Higher scores on ideological orientation indicate right-leaning ideological orientation. Higher scores on Ethnic identification, Perspective taking, and Threat perception indicate higher levels of each trait.

Content analysis

Sixty-four participants (78%) who assessed the intervention content as relatively implausible or untrue elaborated their answers, whilst the others omitted to do so (eight participants in the Ingroup norm condition and ten in the Outgroup experience condition). We extracted four meaningful categories from the elaboration on implausibility of the Ingroup norm intervention, and three categories from the elaboration regarding the Outgroup experience intervention. Some of the answers were categorized in more than one group since they reflected more than one category of answers.

Ingroup norm intervention: categories of answers

The most frequent category was doubting the authenticity of the data (40%), followed by the belief that Serbian citizens are too prejudiced to think that Bosniaks from Serbia hold complex identities (29%). Twenty-three percent of respondents mentioned that the data reported in the text was in contrast with their everyday experiences. Finally, 20% reported that they found the text convincing, although they did not assess it as highly plausible. Categories, their relative frequencies and examples are detailed in Table 9.

Table 9

Categories of arguments regarding implausibility of the Ingroup norm intervention

Category	Frequency	Example
Doubt in correctness / authenticity of the data	14/35 (40%)	*It is completely unbelievable to me that over 80% of the people in the sample think that Bosniaks and Serbs are so similar.*
Prejudice or general attitude in Serbian society	10/35 (29%)	*For some reason, I believe that there is a hidden hatred towards people of the Muslim faith who live in Serbia, because they are connected with Bosniaks from Bosnia, against whom Serbs fought only 25 years ago.*
Contrast to everyday personal experiences	8/35 (23%)	*The whole text is convincing to me in itself, but it does not coincide with everyday experience.*
The text is plausible (but plausibility assessments are below 5)	7/35 (20%)	*Nothing bothered me in the text, it would be really wonderful if it really is, maybe I can even find and read the paper.*

Outgroup experience intervention: categories of answers

We extracted three categories of arguments regarding implausibility of the Outgroup experience intervention. Here, participants most frequently reported that they had not found anything implausible in the text (43%), although they did not assess it as highly plausible. Thirty-two percent of participants doubted the authenticity of the data. Finally, 29% distrusted the self-description of the minority group members. Table 10 details the categories, their relative frequencies, and the examples of arguments.

Table 10

Categories of arguments regarding implausibility of the Outgroup experience intervention

Category	Frequency	Example
The text is plausible (but plausibility assessments are below 5)	12/28 (43%)	*The given text looks convincing.*
Doubt in correctness / authenticity of the data, or that the answers are socially desirable	9/28 (32%)	*Although it was stated that this is one of the more extensive surveys, I do not think that the sample of respondents was representative. Also, I think that the percentage of Bosniak respondents who felt close to Serbia is overestimated.*
General distrust in the minority group	8/28 (29%)	*[...] who can guarantee us that at some point Bosniaks (Muslims) will remain loyal to Serbia*

Quantitative analysis

Descriptive statistics of the measured variables are detailed in Table 11. In general, our participants were on the left-hand side of the political spectrum, relatively high in perspective taking, whilst their perception of the outgroup as a threat was relatively low; they were still strongly identified with the Serbian ethnic group. The values of standardized skewness and kurtosis indicate significant deviations from normal distribution. Therefore, we performed all inferential statistical analyses twice: 1) on raw scores, which we report here in the main text, and 2) on normalized scores, as a sensitivity analysis, which is reported in Appendix C.

Table 11

Descriptive statistics and t-tests for proposed moderators – Pilot experiment

	N	M	SD	zSk	zKu
Ideological orientation (1-11)	187	3.99	2.76	5.56	0.11
Ethnic identification (1-7)	187	5.24	1.32	-4.78	1.20
Perspective taking (1-7)	187	5.33	1.23	-6.74	5.91
Threat perception (1-7)	187	2.76	1.31	3.93	-0.09
Plausibility (1-6)	187	4.73	0.95	-5.62	3.40
Dual identity perception (0-100)	148	55.47	24.01	-3.22	-0.80

Note. zSk – standardized Skewness, zKu – standardized Kurtosis. Absolute values of zSk and zKu higher than 1.96 indicate that a distribution significantly deviates from normality.
Note. Higher scores on ideological orientation indicate right-leaning ideological orientation.

Table 12 shows means and standard deviations of plausibility assessment and dual identity perception per condition, as well as mean differences between conditions. Average plausibility assessment was significantly higher than the theoretical cut-off score of 4 in both conditions ($M_{ingroup\ norm}$ = 4.68, $t(93) = 7.14$, $p < .001$; $M_{outgroup\ experience}$ = 4.78, $t(92) = 7.62$, $p < .001$). The two conditions do not differ from each other ($t(185) = -0.78$, $p = .435$).

Table 12

Means, Standard deviations, and mean differences for plausibility assessment and dual identity perception – Pilot experiment

	Condition	N	M [95% CI]	SD	One-sample t(df)	Mean difference [95%CI]
Plausibility (1-6)	Ingroup norm	94	4.68*** [4.52]	0.92	7.14(93)	-0.10 [-0.38, 0.17]
	Outgroup experience	93	4.78*** [4.61]	0.99	7.62(92)	
Dual identity perception (0-100)	Ingroup norm	74	53.61 [48.60]	25.87	1.20(73)	-3.71 [-11.52, 4.09]
	Outgroup experience	74	57.32** [53.06]	22.01	2.86(73)	

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

As for dual identity perception, it was insignificantly higher than the theoretical mean of 50 in the ingroup norm condition (M = 53.61, $t(73) = 1.20$, $p = .234$), and significantly higher in the outgroup experience condition (M = 57.32, $t(73) = 2.86$, $p = .005$). Again, the two conditions do not differ from each other ($t(146) = -0.94$, p .348). Distribution of dual identity perception in each condition is depicted in Figure 4.

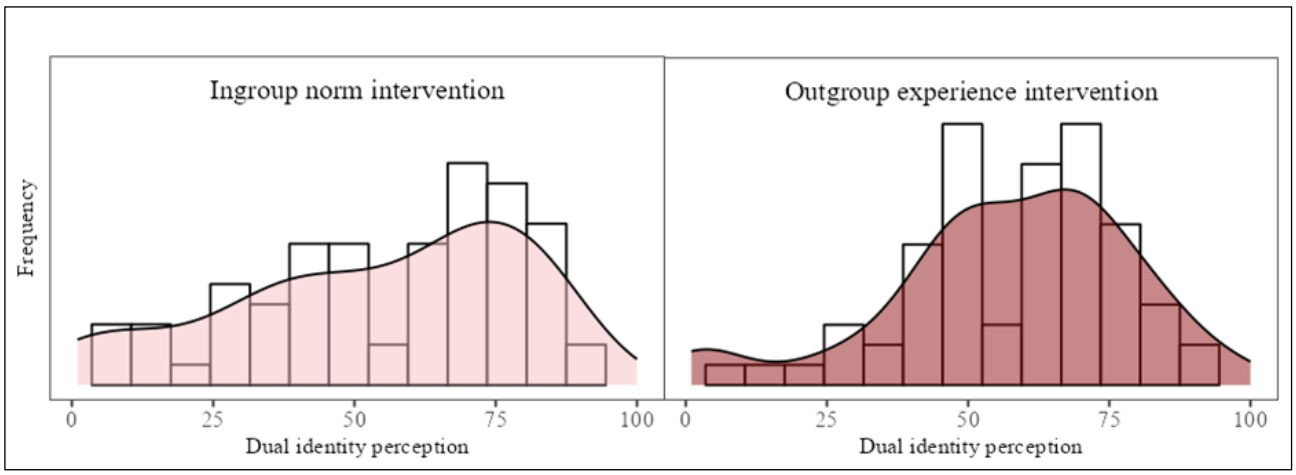


Figure 4. *Density plots of dual identity perception in two experimental conditions*

Intercorrelations between the variables are detailed in Table 13. In the ingroup norm condition (below the diagonal), plausibility assessment was unrelated to any of the proposed moderators. On the contrary, plausibility assessment of the Outgroup experience intervention (above the diagonal) was strongly related to threat perception and somewhat weaker to perspective taking. In other words, the less participants perceived Bosniaks as a threat, and the higher their dispositional perspective taking was, the more likely were they to assess the Outgroup experience intervention as plausible. These differences in correlation patterns were statistically significant (see Appendix D). Surprisingly, ethnic ingroup identification was unrelated to plausibility assessment. This made threat perception and perspective taking candidates for moderators, and their interaction with intervention type was later tested within the regression model.

Dual identity perception was strongly related to threat perception and somewhat weaker to perspective taking in both experimental conditions. However, in the Ingroup norm condition, there was a strong correlation between dual identity perception and ideological orientation in that the intervention was more effective for leftists. We did not observe such a relation in the Outgroup experience condition, which made ideological orientation a candidate for moderator of intervention effectiveness.

Importantly, plausibility assessment was related to dual identity perception only in the Outgroup condition, while their relation was zero in the Ingroup norm condition. Although this could indicate that weakly plausible interventions can also affect focal constructs (dual identity perception in this case), it does not seem to be the case given the highly skewed distribution of plausibility assessment. In fact, the Ingroup norm intervention was assessed as highly plausible – its median value is 5 (on the 6-point scale), and only 14% of the participants assessed its plausibility as lower than 4. Therefore, it seems that high plausibility assessment did not necessarily mean that the intervention will affect dual identity perception.

Table 13

Intercorrelations between variables by experimental condition – Pilot experiment

	Ideological orientation	Ethnic identification	Perspective taking	Threat perception	Plausibility	Dual identity perception
Ideological orientation		.46****	-.46***	.53***	-.13	**-.14**
Ethnic identification	.44***		-.16	.29**	.07	-.03
Perspective taking	-.50***	-.30**		-.55***	**.32****	.31**
Threat perception	.51***	.22*	-.49***		**-.50*****	-.52***
Plausibility	.05	-.08	**-.03**	**-.20**		**.47*****
Dual identity perception	**-.54*****	-.21	.24*	-.51***	**0.05**	

Note. Ingroup norm condition is displayed below the diagonal, whilst the outgroup experience condition is above it. ***$p < .001$, **$p < .01$, *$p < .05$. Bolded are the coefficients that significantly differ between the conditions (Appendix D). Higher scores on ideological orientation indicate right-leaning ideological orientation.

Predictors of plausibility assessment

Finally, to test whether the individual differences moderate the effects of intervention types on a) plausibility assessment and b) perception of dual identity perception, we built two hierarchical linear regression models.

Table 14 displays the details of the regression analysis of plausibility assessment. For easier reading, we report only standardized regression coefficients and proportions of explained variance, while other statistical parameters are given in Appendix E, Table E1. Controlling for age, sex, and self-reported religiosity, we did not observe a significant contribution of intervention type on plausibility assessment ($\beta = 0.08$, $p = .265$), and the overall model was insignificant ($\Delta R^2 = .007$, $\Delta F(1,182) = 0.948$, $p = .332$), once again confirming that the two interventions were equally plausible. Introducing individual characteristics in the model explained additional 13.3% variance in plausibility assessment ($\Delta R^2 = .133$, $\Delta F(4,178) = 7.022$, $p < .001$). Here, perceived threat was the only significant predictor of plausibility assessment, in that the individuals who perceived the outgroup as more threatening assessed plausibility of the interventions as lower ($\beta = -0.42$, $p < .001$). We then added an interaction between intervention type and threat perception in the equation. It accounted for the additional 3.2% of the variance ($\Delta R^2 = .032$, $\Delta F(1,177) = 7.059$, $p = .009$), and the interaction term significantly contributed to the model ($\beta = -0.25$, $p = .009$). Adding the intervention type * perspective taking interaction into the model did not improve its predictive power ($\Delta R^2 = .008$, $\Delta F(1,176) = 1.592$ $p = .209$).

Table 14

Regression coefficients for prediction of plausibility assessment - Pilot experiment

	Step 0	Step 1	Step 2	Step 3	Step 4
	β	**β**	**β**	**β**	**β**
Age	-.15	-.16*	-.08	-.08	-.08
Gender (1 = female)	-.04	-.04	-.02	-.04	-.04
Religiosity	.04	.04	.05	.05	.06
Intervention type (Outgroup experience vs. Ingroup norm)		.07	.08	.08	.08
Ideological orientation			.15	.15	.15
Ethnic identification			.01	.03	.01
Perspective taking			.01	.00	-.09
Threat perception			-.43***	-.26*	-.30**
Intervention type * Threat perception				-.25***	-.18
Intervention type * Perspective taking					.14
R^2 **[95% CI]**	.021 [.00, .06]	.026 [.00, .08]	.159*** [.04, .22]	.191*** [.06, .25]	.199*** [.06, .26]
R^2_{adj}	.005	.005	.121	.150	.153
ΔR^2 **[95% CI]**		.005 [-.02, .03]	.133*** [.04, .22]	.032** [.00, .08]	.008 [-.01, .03]

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

Although the interaction between threat perception and intervention type did not remain significant in the last step, we plotted the simple slopes to understand better the effect observed in step 3. As shown in Figure 5, threat perception modified plausibility assessment of the Outgroup experience intervention: the more an individual perceived Bosniak as threatening, the less plausible they found the intervention content. The same did not hold for the Ingroup norm intervention that turned out to be resistant to threat perception.

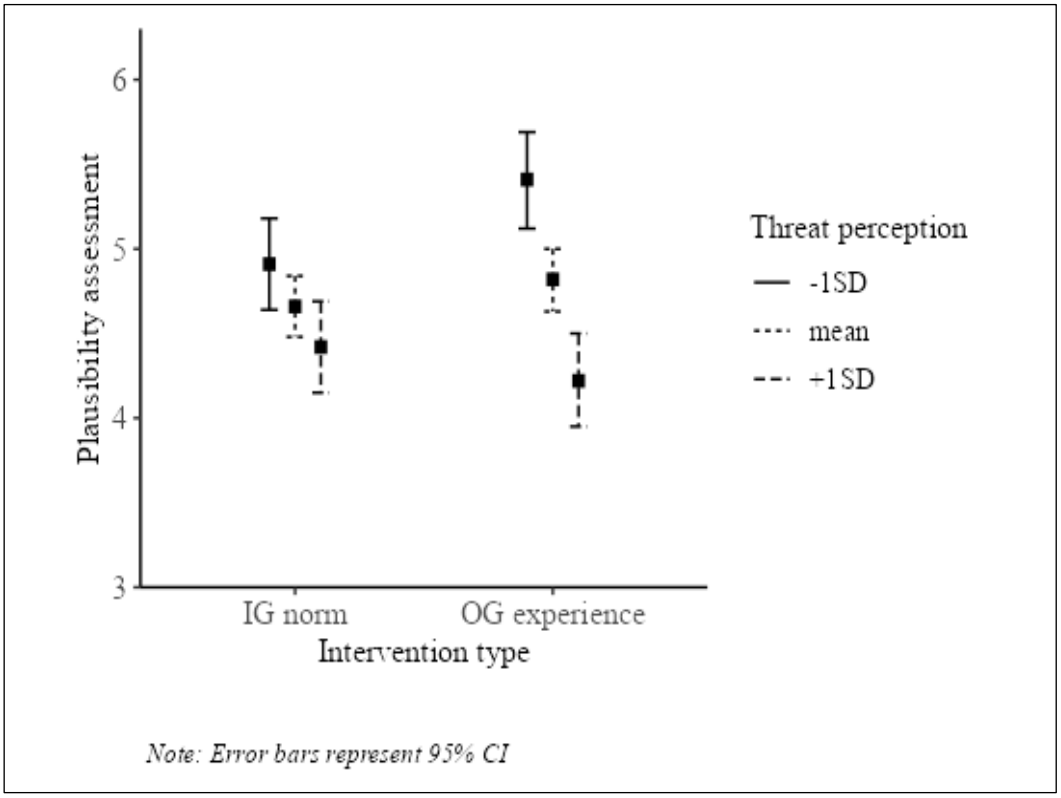


Figure 5. *Interaction between intervention type and threat perception on plausibility assessment in pilot experiment*

Predictors of dual identity perception

To test for the predictors of dual identity perception, we built another hierarchical linear regression model. Predictors were the same as for plausibility assessment, with the additional predictor in the third step – plausibility. After controlling age, gender, and religiosity, we found no difference between the intervention types in their effectiveness to induce dual identity perception (β = .10, p = .251; see Table 9). Introducing individual differences and plausibility assessment increased the predictive power of the model for 24% (ΔR^2 = .237, $\Delta F(4,138) = 9.519$, $p < .001$). Here, threat perception was the only significant predictor (β = -.43, $p < .001$), in that individuals who find the outgroup as more threatening perceive the gateway group as weaker dually identified. We then introduced the interaction between intervention type and ideological orientation, since we earlier observed that ideological orientation correlates with dual identity perception only in Ingroup norm condition (see Table 7). The interaction significantly contributed to the model (ΔR^2 = .055, $\Delta F(1,137)$ = 11.761, p = .001). Finally, we added the Intervention type * plausibility assessment into the equation, however, it did not contribute to the model (ΔR^2 = .011, $\Delta F(1,136) = 2.420$, p = .122). The detailed results of regression analysis are given in Appendix E, Table E2.

Table 9
Regression coefficients for prediction of dual identity perception - Pilot experiment

	Step 0	Step 1	Step 2	Step 3	Step 4
	β	β	β	β	β
Age	-.06	-.08	.02	.00	-.01
Gender (1 = female)	.21*	.20*	.09	.09	.08
Religiosity	-.00	-.01	.07	.07	.07
Intervention type (Outgroup experience vs. Ingroup norm)		.10	.12	.10	.09
Ideological orientation			-.13	-.38**	-.39**
Ethnic identification			.02	.02	-.01
Perspective taking			-.05	-.06	-.07
Threat perception			-.43***	-.41***	-.40***
Plausibility			.12	.15	.02
Intervention type * ideological orientation				.35***	.35***
Intervention type * plausibility					.17
R^2 **[95% CI]**	.054* [.00, .12]	.062 [.00, .13]	.303*** [.14, .38]	.358*** [.19, .43]	.369*** [.19, .43]
R^2_{adj}	.034	.036	.257	.311	.318
ΔR^2 **[95% CI]**		.009 [-.02, .04]	.240*** [.12, .36]	.055** [.00, .11]	.011 [-.02, .04]

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

To disentangle the interaction between intervention type and ideological orientation, we looked into the estimated marginal means of dual identity perception on the different levels of ideological orientation. As depicted in Figure 6, Ingroup norm intervention was the most effective for people on the left-hand side of the ideological continuum, and its effectiveness decreased as the ideological orientation moved to the right-hand side. On the other hand, the effectiveness of the Outgroup experience intervention was unrelated to ideological orientation.

We observed the same patterns on normalized scores (Appendix C). Additionally, interaction between intervention type and normalized scores of plausibility was significant, indicating positive relation between plausibility and dual identity perception after the outgroup experience intervention, but not after the ingroup norm one (Appendix C, Figure C2).

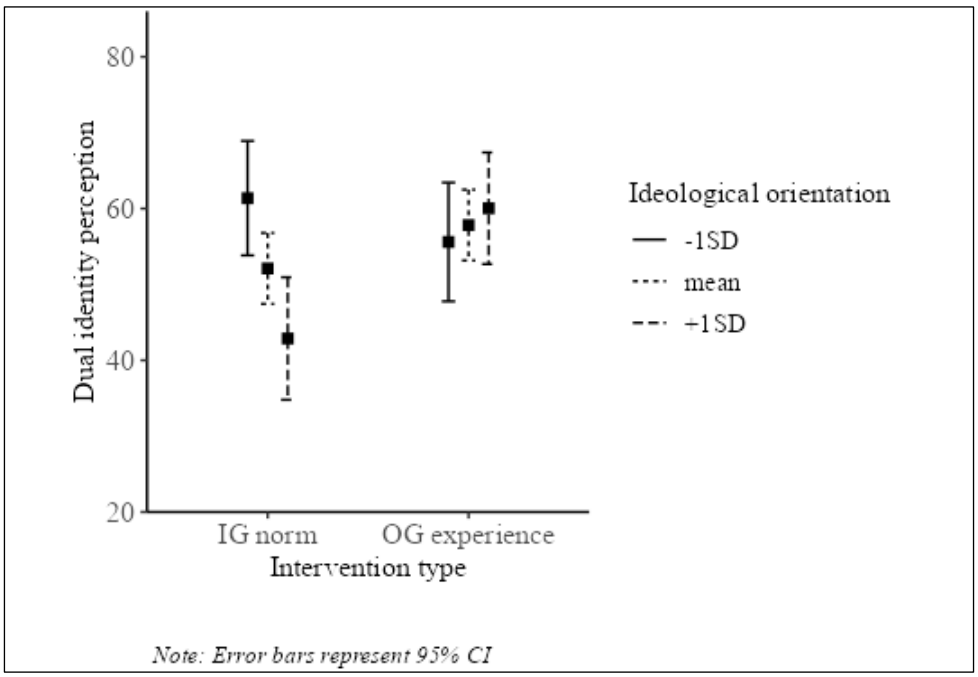


Figure 6. *Interaction between intervention type and ideological orientation on dual identity perception in pilot experiment*

Summary of the pilot experiment results

In the pilot experiment, we explored how people respond to two dual identity interventions – one framed from the ingroup perspective (Ingroup norm intervention) and the other framed from the outgroup perspective (Outgroup experience intervention). Preliminary analysis indicated that individuals higher in threat were more likely to reject both interventions as implausible, compared to those who perceive outgroup as less threatening. Additionally, those lower in perspective taking were more likely to reject the Outgroup experience intervention content as implausible, but not Ingroup norm intervention.

Summary of the qualitative analysis results

Qualitative analysis of the arguments for implausibility revealed that, for both interventions, some participants (35% of those who found them implausible) doubted the authenticity and methodological correctness of the research reported in the interventions. For ingroup norm intervention, they also reported that they perceived Serbs as too prejudiced to hold the perception of Bosniaks' complex social identification, or that the information reported contrasted their everyday experiences. On the other hand, some participants who assessed the Outgroup experience intervention as implausible reported low trust in Bosniaks as the crucial argument for disbelieving the information about their dual identity.

These findings indicate that the two intervention types differ regarding the roots of their plausibility assessment. Not surprisingly, disbelieving the Outgroup experience intervention comes from distrust in the minority group. As we demonstrated in the preliminary analyses, it is also related to the perception of outgroup threat - individuals who perceive outgroup as more threatening are more likely to reject the content framed from the outgroup perspective as implausible. This is in line with the findings from Schmid and colleagues (2014), who showed that there is a strong relation between trust to outgroup members and perceiving them as a threat for the ingroup. On the other hand, low plausibility assessment of the Ingroup norm intervention stems from its contrast to the perceived attitudes of the majority group, or to the personal experience. It is also related to outgroup threat perception in that the more threatening outgroup is perceived, the less plausible will the intervention content be assessed. When we looked into their arguments, we noticed the individuals who find

Bosniaks threatening AND the Ingroup norm intervention implausible mostly rely on the perception of people in their close environment (e.g., *[I do not think that the text is plausible] due to my personal experience with Serbs' attitudes towards Bosniaks that differ from the results of your research.*). This is in line with the findings that people generally overestimate the community support of their attitudes, especially the negative ones (Pedersen et al., 2008).

The results of content analysis also indicate that, for some individuals, low believability of our interventions' content stems from their suspicion of methodological rigor of an ostensible research study they were asked to read. This argument was almost equally distributed across the intervention types and was the easiest one to apply in the modification of our interventions to make them more plausible. Therefore, we implemented the changes regarding methodological rigor of the supposedly conducted studies for the following experiments (see Appendix F). Furthermore, to overcome the beliefs about other ingroup members' attitudes, we enriched the content of the Ingroup norm intervention with the ostensible participants' statements about their own perceptions of Bosniaks from Serbia. We did the same for the Outgroup experience intervention to make them as equal as possible.

Summary of quantitative analysis results

Our quantitative analysis indicated that both intervention types were assessed as highly plausible – the average plausibility was above four on the six-point scale. Similarly, they had an equally high potential to induce dual identity perception. Further analysis indicated that the correlates of plausibility differed between the conditions: while none of our four proposed moderators was associated to plausibility assessment of the ingroup norm intervention, plausibility assessment of the outgroup experience intervention was related to threat perception and perspective taking. When we tested predictors of plausibility assessment, threat perception stood out as a moderator: whilst plausibility of the Ingroup norm intervention was resistant to the individual differences in threat perception, we observed differences in plausibility assessment of the Outgroup experience intervention regarding perceived threat. More precisely, individuals who reported high levels of threat perception were less likely to assess the content of Outgroup experience intervention as plausible, compared to those who reported average or low levels of threat perception. It is important to note here that the distribution of threat perception was highly negatively skewed, meaning that our sample consisted predominantly of the individuals who do not perceive Bosniaks as threatening. In fact, only 16% of participants reported the levels of perceived threat above the theoretical midpoint of four. Thus, we cannot precisely extrapolate these findings on individuals who find outgroup highly threatening. However, our results indicate that the Outgroup experience intervention might not be suitable for the subpopulations whose general outgroup feelings are negative and charged with fear.

When it comes to dual identity perception, that is the focal construct that we intended to manipulate using our interventions, we observed moderate-to-high effectiveness of our interventions. The interventions did not differ in their effectiveness; however, the Outgroup experience intervention was slightly more effective – its effectiveness was significantly above a theoretical average, which is not true for the Ingroup norm intervention. Here, we also observed different patterns of correlations with the proposed moderators between the conditions: dual identity perception was relatively strongly related to ideological orientation in the Ingroup norm condition, but not in the Outgroup experience one. On the other hand, its correlation with plausibility assessment was only observed in the Outgroup experience condition. Regression analysis revealed that there was an interaction between intervention type and ideological orientation: this time, Outgroup experience intervention was resistant to the individual differences regarding ideology, whilst the Ingroup norm intervention was more effective the more left-leaning people were. Two aspects of this result should be taken into account. The distribution of ideological orientation was skewed, so that over 70% of the individuals placed themselves left from the center (< 6 on 11-point scale), meaning that the extrapolation to the more right-oriented individuals would not be appropriate. However, our results are in line with the findings

by Nir and colleagues (2024) that indicated that center-to-left leaning individuals react well to the interventions that employ ingroup norms.

Importantly, we did not observe the difference between the conditions regarding the relationship between threat perception and dual identity perception as we did for plausibility assessment. We also observed the plausibility – dual identity perception relation only in Outgroup experience condition. It seems that plausibility assessment might be a precondition of effectiveness of the Outgroup experience intervention, but not Ingroup norm one. However, our sample was too small to test for the moderated mediation model. Therefore, we aimed to disentangle these differences in the further three experiments.

Experiments 1-3

In the experiments 1-3, we aimed to further investigate plausibility and effectiveness of the two types of dual identity interventions, as well as their moderators, on larger and more diverse samples from Serbia (Experiment 1) and Bosnia and Herzegovina (Experiments 2 & 3). Based on the results of pilot experiment and previous studies on intergroup relations, we specified the following hypotheses:

H1: Two interventions will be assessed as equally plausible.

H2: Two interventions will equally impact perception of gateway group's dual identity.

H3a. Perception of gateway group's dual identity will be higher in the Ingroup norm condition than in the control condition.

H3b. Perception of gateway group's dual identity will be higher in the Outgroup experience condition than in the control condition.

Given that people can differently respond to the similar content depending on its framing, we included four potential moderators of the interventions: ideological orientation, ethnic identification strength, perspective taking, and perceived outgroup threat. However, due to the high demands regarding sample size for testing multiple moderations within the same design, we specified the hypotheses regarding the correlations between plausibility and individual differences:

H4a. Given the role of ideological beliefs in intergroup relations (see Cuevas & Dawson, 2021 for a review), ideological orientation will be correlated to plausibility assessment in that more right-leaning individuals will assess the interventions' content as less plausible.

H4b. Given that individuals who strongly identify with their ingroup are more willing to stick to ingroup norms (Livingstone et al., 2011), we expect the assessed plausibility of the ingroup norm intervention to be positively correlated to ingroup identification.

H4c. We expect a positive correlation between the assessed plausibility of the outgroup experience intervention and ethnocultural perspective taking. The rationale for this hypothesis stems from the fact that ethnocultural perspective taking captures self-reported ability to understand feelings of ethnic outgroup (Wang et al., 2003).

H4d. We expect outgroup threat perception to be negatively correlated to the assessed plausibility of outgroup experience intervention, given that perceived threat decreases trust in outgroup members (Schmid et al., 2014)

Hypotheses regarding dual identity perception (that is, manipulation check), mirrored those related to plausibility:

H5a. We expect negative correlation between ideological orientation and dual identity perception in that more right-leaning individuals perceive the gateway group as less dually identified after both interventions.

H5b. We expect positive correlation between ingroup identification and dual identity perception after the exposure to the ingroup norm intervention.

H5c. As for ethnocultural perspective taking, we expect that it would be positively correlated with dual identity perception after the exposure to the outgroup experience intervention.

H5d. We expect negative correlation between outgroup threat perception and dual identity perception after the exposure to the outgroup experience intervention.

Regarding the relation between plausibility assessment and dual identity perception, we specified the following hypothesis:

H6. The plausibility of each intervention will correlate positively with dual identity perception after the exposure to that intervention.

Finally, although we aimed at exploring how individual differences moderate plausibility assessment and dual identity perception after exposure to different intervention types, we did not specify the hypotheses regarding moderation effects. Given that testing of even a single interaction requires large sample size, we would need a sample of $N > 1000$ for each experiment to simultaneously test four interaction effects within one regression model (Sommet et al., 2023). We also wanted to avoid the risk of overfitting the model with too many insignificant predictions in the regression equation since such models would have a lower probability of replication (Bartlett et al., 2020). Therefore, our strategy was to test moderation effects only for those variables whose patterns of correlation with the outcome differed between the experimental conditions. This will be explained in more detail in the Method section.

Societal context of Study 2 experiments

We conducted our experiments in the post-conflict context of ex-Yugoslavia. During the last decade of the 20th century, this region was affected by civil war between the ethnic groups. Today's Bosnia and Herzegovina was one of the war-torn territories, where ethnic Serbs, Bosniaks, and Croats fought against each other. Serbia, on the other hand, was not directly affected by the war, but did support ethnic Serbs in Bosnia and Herzegovina. After the war, the territory of Yugoslavia was divided by ethnic boundaries. Today, over 80% of Serbian citizens are ethnic Serbs, and 2% are Bosniaks (Statistical Office of the Republic of Serbia, 2023). Bosnia and Herzegovina is divided into two entities following the Dayton Accords from 1995: Federation of Bosnia and Herzegovina (FBH) is predominantly inhabited by Bosniaks (70%), whilst 81% of the other entity - Republika Srpska (RS) are Serbs (Agency for statistics of Bosnia and Herzegovina, 2019). Fourteen per cent of the population of RS are ethnic Bosniaks, while 2.5% of the FBH population are ethnic Serbs. Regarding national (citizen) identity, all citizens of Bosnia and Herzegovina are recognized as *Bosnians* regardless of their ethnic affiliation, however, ethnic Serbs typically do not identify with Bosnian nation and prefer an ethno-national category (*Serbs*) instead (Žeželj & Pratto, 2017).

Although the two groups have lived in peace since the Dayton agreement was signed in 1995, the tensions between them still exist (Turjačanin et al., 2017) and political authorities incite ethnonationalism and hostility on both sides. Therefore, this setting is fertile ground for the research of intergroup bias and interventions for its reduction.

Experiment 1 was conducted in the same intergroup setting as pilot experiment, but on a community sample of Serbian citizens.

Experiment 2 was conducted in Federation of Bosnia and Herzegovina (FBH). Participants were Bosniaks who live in FBH. Members of Serbian minority in FBH who identify themselves as

Bosnians (national affiliation) served as a gateway group, while Serbs in general were the target outgroup.

Experiment 3 was conducted in Republika Srpska (RS). Participants were members of the majority Serbian ethnic group who live in RS. Bosniaks from RS served as a gateway group. The target outgroup were Bosniaks in general.

Method

Design and procedure

Like in the pilot experiment, participants first filled in the scales assessing the potential moderators.

Ingroup identification was assessed using the same items as in the pilot experiment (e.g., *I feel [Serbian / Bosniak];* (Storz et al., 2020). Higher scores indicated a higher degree of ingroup identification.

Perspective taking was measured using the four items from Perspective taking subscale from the Scale of ethnocultural empathy (Wang et al., 2003). We used the same items as in the pilot experiment (e.g., *It is easy for me to understand what it would be like to be a person of another ethnicity*). Higher scores indicated higher levels of perspective taking.

Outgroup threat perception. In Experiment 1, we used the same nine items as in the pilot experiment. Given that the relations between Serbs and Bosniaks are different in Bosnia and Herzegovina than in Serbia, we adapted the scale for that particular context. Thus, in the Experiments 2 and 3, we measured Outgroup threat perception using six items (e.g., *I am afraid that allowing the Serbian minority to decide on political issues in FBH would mean that Bosniaks have less space to say how this country should be run.*).

Outgroup contact was measured only in Experiments 2 and 3 using three items (*How often do you have contact with [Serbs/Bosniaks] in the following situations: 1) at university / at work; 2) in your neighbourhood; 3) among friends and acquaintances*). The answers were given on a 5-point scale. Higher scores indicated more frequent outgroup contact.

After filling in the scales, participants were randomly assigned to one of the three conditions: 1) Ingroup norm condition, 2) Outgroup experience condition, or 3) Control condition. In each of the first two (experimental) conditions, participants were asked to read the Ingroup norm intervention, or the Outgroup experience intervention. Their content was adapted following the results of the content analysis conducted in the pilot experiment. Participants in the third, Control condition, read a text of similar length about endangered animal species in their region.

Interventions were followed by comprehension check, plausibility check, and manipulation check (dual identity perception) that were the same as in the pilot experiment. In the end, we registered ideological orientation, gender, age, religiosity, and education. We also registered their place of living and ethnicity that both served as exclusionary criteria.

All experiments were distributed using SoSci Survey platform (Leiner, 2021).

Participants

In all three experiments, we recruited community samples of participants from the ethnic majority in a country or entity: Serbs in Serbia, Bosniaks in Federation of Bosnia and Herzegovina (FBH), and Serbs in Republika Srpska. Participants who did not meet the criteria of ethnicity and citizenship were redirected to another survey. We aimed to recruit at least $N = 300$ per sample since it would allow us to detect the small interaction effects obtained in the pilot study with $\alpha = .05$ and

power (1- β) = .85. Samples descriptions and the intergroup contexts across the experiments are summarized in Table 15.

Table 15
Description of samples in Experiments 1-3

	Experiment 1	**Experiment 2**	**Experiment 3**
N	328	393	387
Country (entity)	Serbia	Bosnia & Herzegovina (FBH)	Bosnia & Herzegovina (RS)
Ethnicity	Serbian	Bosniak	Serbian
Recruitment type	Social media ads	University courses and social media ads	University courses and social media ads
Age range (M, SD)	18-77 (*M* = 44.3, *SD* = 13.3)	18-73 (*M* = 35.5, *SD* = 14.4)	18-75 (*M* = 33.9, *SD* = 13.3)
Gender structure	55% women	68% women	70% women
Ingroup	Serbs from Serbia	Bosniaks from FB&H	Serbs from RS
Outgroup	Bosniaks	Serbs	Bosniaks
Gateway group	Bosniaks from Serbia	Serbs from FB&H	Bosniaks from RS

Data analysis plan

In all three experiments, we followed the same analytical strategy used in the pilot experiment.

First, we explored the descriptive statistics of the used variables. Then, using one-tailed one-sample T-tests, we checked whether the plausibility of each intervention content differed from 4, (*more plausible than implausible*). By the same token, we examined whether dual identity perception was higher than 50 (a theoretical mid-point).

To test H1, we ran one-way between-subjects ANOVA. Experimental condition served as an independent variable, whilst plausibility assessment served as a dependent variable. Using planned contrasts, we tested whether the two intervention types differed regarding their plausibility.

We tested H2 and H3 using one-way between-subjects ANOVA with experimental condition as an independent variable, and dual identity perception as an outcome. For testing H2, we specified a contrast between the two intervention types. On the other hand, we tested H3 using contrasts between each experimental condition and the control one.

To test H4, we analyzed the correlations between individual characteristics on one hand, and plausibility assessment on the other using Pearson's correlations. We calculated the correlations for each experimental condition separately and looked into the differences between correlation patterns to check for potential moderators. Similarly, we tested H5 by looking at the correlations between individual characteristics on the one hand and dual identity perception on the other. Finally, we tested H6 using Pearson's correlation between plausibility and dual identity assessment.

For the exploratory purposes, we built two hierarchical linear regression models for each experiment. First, we tested the predictors of plausibility assessment. In the first block we introduced gender, age, religiosity, and education. In the second block, we introduced the intervention type. The third block contained individual differences regarding Ideological orientation, Ingroup identification, Perspective taking, Outgroup threat perception, and Outgroup contact (only in experiments 2 and 3). Finally, in the fourth (and later) blocks, we introduced interactions between intervention type and each of the variables of individual differences that showed different patterns of correlation with plausibility assessment in the two experimental conditions. We used the same strategy to test predictors of dual identity perception with the additional predictor – plausibility – in step 3.

All analyses were conducted using R 4.4.1 statistical software (R Core Team, 2023).

Results

Descriptive statistics

Descriptive statistics and reliabilities for the variables used in Experiments 1-3 are detailed in Table 16. On average, participants from Serbia (Experiment 1) were ideologically left leaning, moderately identified with their ethnic ingroup, relatively high in perspective taking, and relatively low in perceiving Bosniaks as a threat. Participants from B&H (Experiments 2 and 3) were also ideologically left leaning, strongly identified with their ethnic ingroup, moderate in perspective taking and perceiving outgroup threat, and reported moderate frequency of contact with outgroup members. As indicated, absolute values of standardized skewness are high for almost all variables, which is why we conducted sensitivity analyses with normalized scores (APPENDIX G).

Table 16

Descriptive statistics and reliabilities - Experiments 1-3

Experiment 1 (*N* = 328)	**M**	**SD**	**zSk**	**zKu**	**α**	**ω**
Ideological orientation (1-11)	4.16	2.90	5.50	-1.90	/	/
Ethnic identification (1-7)	4.35	1.76	-2.97	-3.46	.88	.88
Perspective taking (1-7)	5.71	1.04	-5.79	-0.11	.63	.66
Threat perception (1-7)	2.68	1.47	6.98	0.60	.94	.94
Plausibility (1-6)	4.52	1.01	-4.46	0.11	.85	.85
Dual identity perception (0-100)	52.30	24.86	-0.82	-2.91	/	/
Experiment 2 (*N* = 393)						
Ideological orientation (1-11)	3.97	2.92	6.01	-1.34	/	/
Ethnic identification (1-7)	5.62	1.39	-9.75	3.95	.85	.85
Perspective taking (1-7)	4.63	1.35	-4.14	0.33	.70	.71
Threat perception (1-7)	3.81	1.61	0.73	-3.26	.88	.88
Outgroup contact (1-5)	3.33	1.00	-1.79	-2.73	.81	.81
Plausibility (1-6)	4.20	1.03	-6.01	3.91	.84	.84
Dual identity perception (0-100)	45.43	27.75	0.49	-3.91	/	/
Experiment 3 (*N* = 387)						
Ideological orientation (1-11)	4.85	3.12	3.79	-3.35	/	/
Ethnic identification (1-7)	5.56	1.42	-10.56	5.54	.87	.87
Perspective taking (1-7)	4.83	1.37	-4.51	-0.44	.74	.75
Threat perception (1-7)	3.64	1.67	1.85	-3.23	.91	.91
Outgroup contact (1-5)	3.08	0.91	0.00	-1.98	.71	.73
Plausibility (1-6)	3.95	1.11	-4.60	0.24	.88	.88
Dual identity perception (0-100)	34.34	26.33	4.11	-3.39	/	/

Note. zSk – standardized Skewness, zKu – standardized Kurtosis. Absolute values of zSk and zKu higher than 1.96 indicate that a distribution significantly deviates from normality.

As reported in Table 17, plausibility and effectiveness of both intervention types were relatively high in Experiment 1. As expected, dual identity perception was lower than the midpoint in the Control condition. When it comes to Experiment 2, both intervention types were assessed as plausible, however, neither of them elicited dual identity perception higher than a midpoint of 50. In Experiment 3, only the Ingroup norm intervention was assessed as relatively highly plausible. Again, neither of the interventions induced dual identity perception.

Table 17

T-tests of interventions' plausibility and effectiveness in Experiments 1-3

	Condition	**N**	**M [95% CI][1]**	**SD**	**One-sample t(df)**
Experiment 1 (Serbia)					
Plausibility (1-6)	Ingroup norm	115	4.42*** [4.27]	1.01	4.48 (114)
	Outgroup experience	99	4.78*** [4.62]	0.95	8.17 (98)
	Control	114	4.40*** [4.24]	1.02	4.18 (113)
Dual identity perception (0-100)	Ingroup norm	115	55.26** [51.61]	23.59	2.39 (114)
	Outgroup experience	99	60.87*** [56.67]	25.13	4.30 (98)
	Control	114	41.86 [38.40]	22.29	-3.90 (113)
Experiment 2 (FBH)					
Plausibility (1-6)	Ingroup norm	126	4.40*** [4.25]	1.00	4.46 (125)
	Outgroup experience	135	4.40*** [4.28]	0.85	5.45 (134)
	Control	132	3.79 [3.63]	1.12	-2.09 (131)
Dual identity perception (0-100)	Ingroup norm	127	45.68 [41.30]	29.67	-1.63 (125)
	Outgroup experience	135	47.33 [43.93]	23.82	-1.30 (134)
	Control	132	43.25 [38.98]	29.6	-2.62 (131)
Experiment 3					
Plausibility (1-6)	Ingroup norm	126	4.36*** [4.22]	0.95	4.24 (125)
	Outgroup experience	130	3.86 [3.70]	1.12	-1.37 (129)
	Control	131	3.64 [3.48]	1.12	-3.65 (130)
Dual identity perception (0-100)	Ingroup norm	126	34.44 [30.56]	26.25	-5.56 (125)
	Outgroup experience	130	38.85 [35.00]	26.54	-4.79 (129)
	Control	131	29.76 [26.06]	25.62	-9.04 (130)

[1]For plausibility assessment, we tested whether $M > 4$; for dual identity perception, we tested whether $M > 50$.
Note. ***$p < .001$, **$p < .01$, *$p < .05$.

Hypotheses testing

To test H1 (both intervention types will be equally plausible), we used a one-way ANOVA and then compared the two experimental conditions using a t-test for planned contrasts. The overall model was significant in all three experiments, and the differences between the experimental conditions had various directions (Table 18). In Experiment 1 (Serbia), Outgroup experience intervention was assessed as more plausible than the Ingroup norm intervention. Further, in Experiment 2 (Federation of Bosnia and Herzegovina), there was no difference between them. Finally, in Experiment 3 (Republika Srpska), Ingroup norm intervention was assessed as more plausible than the Outgroup experience intervention.

Table 18

Differences in plausibility assessment between the conditions

	ANOVA model	**IG norm – OG experience contrast**	
	F (df1, df2)	t (df)	*d* [95% CI]
Plausibility assessment			
Experiment 1 (Serbia)	4.836 (2, 325)**	-2.642 (325)**	-.37 [-.64, -.09]
Experiment 2 (FBH)	16.040 (2, 390)***	-0.026 (390)	.00 [-.24, .25]
Experiment 3 (RS)	15.040 (2, 384)***	3.683 (384)***	.47 [.22, .72]

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

Despite the differences in their directions, these effects can be interpreted through the lens of the particular social context they occurred in. Higher plausibility of Outgroup experience intervention in Serbia might arise from relatively low outgroup threat perception that allowed participants to trust the statements made by outgroup members and consequently assess the content framed from their perspective as highly plausible. On the contrary, higher plausibility of Ingroup norm intervention in Republika Srpska probably stemmed from the fact that the majority group's cohesion and ethnonationalism in that entity are high (Turjačanin et al., 2017). Finally, the observed equal plausibility assessment of two interventions in FBH might have come from the fact that national identification as *Bosnian*, which we used to portray the gateway group, is widely used. More precisely, an official label for citizens of Bosnia and Herzegovina is *Bosnians*, so they are all expected to identify as such. Besides, all citizens of B&H are expected to specify their ethnicity using one of the consecutive ethnic group names (Bosniaks, Serbs, Croats). There is also evidence that young ethnic Serbs who live in Sarajevo (FBH) tend to identify stronger with the national - Bosnian - identity, compared to their peers from Banja Luka (RS) (Turjačanin et al., 2017). This explains why the information about their dual identification was perceived as plausible regardless of its framing (ingroup or outgroup perspective). Taking all said into account, H1 was supported only in Experiment 2.

H2 and H3 were tested using a one-way ANOVA with t-tests for planned contrasts.

We observed no differences between the two interventions across all three experiments (Table 14), in line with H2. On the other hand, the results of Experiment 1, where Ingroup norm intervention induced dual identity perception compared to the control group were in line with H3a; we did not observe the same in Experiments 2 and 3. Finally, H3b was supported in Experiments 1 and 3, where Outgroup experience intervention was effective (compared to the control group), but not in Experiment 2 (see Table 19).

Table 19

Differences in dual identity perception between the conditions

		Ingroup norm vs. Outgroup experience	Ingroup norm vs. control	Outgroup experience vs. control	*F* (df1, df2)
Experiment 1 (Serbia)	*t*(325)	-1.731	4.291***	5.856***	18.539*** (2, 325)
	Cohen's d	-.23 [-.50, .04]	.59 [.32, .85]	.81 [.53, 1.09]	
Experiment 2 (FBH)	*t*(390)	-0.478	0.703	1.199	0.726 (2, 390)
	Cohen's d	-.06 [-.30, .18]	.08 [-.16, .33]	.15 [-.09, .39]	
Experiment 3 (RS)	*t*(384)	-1.352	1.433	2.810**	3.948 (2, 384)*
	Cohen's d	-.17 [-.41, .08]	.18 [-.06, .43]	.35 [.11, .59]	

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

To test H4, we ran a correlational analysis between individual difference variables on one hand, and plausibility assessment on the other, split by experimental condition. Pearson's correlations for each experiment are detailed in Table 20.

In Experiment 1, we observed very different patterns of correlations between individual differences and plausibility in two experimental conditions. The plausibility of Ingroup norm intervention was positively related to ethnic identification strength, supporting H4b, whilst this correlation was negative for the Outgroup experience intervention. Furthermore, in line with our H4a, ideological orientation was negatively related to plausibility of the Outgroup experience intervention (leftists were more likely to assess it as plausible). On the contrary, it was unrelated to the Ingroup norm intervention's plausibility, which contrasts our H4a. Finally, following the pattern observed in the pilot experiment, plausibility of the Outgroup experience intervention was positively related to perspective taking (those more willing to take other's perspective assessed it as more plausible) and negatively to outgroup threat perception (those who perceived outgroup as less threatening were more likely to assess it as more plausible). This is in line with our H4c and H4d.

On the other hand, the pattern of correlations between individual differences and plausibility did not differ between conditions in Experiment 2. As expected, perspective taking was positively related to plausibility, while the relation between threat perception and plausibility assessment was negative, supporting our H4c and H4d. However, it is noteworthy that these correlations were even stronger for the Ingroup norm intervention. Although the difference between correlations was not statistically significant (see APPENDIX H with intercorrelations and their confidence intervals) this contrasts the patterns observed in Pilot experiment and Experiment 1. The results of Experiment 2 do not support our H4a and H4b given that we found no correlations between plausibility and either ideological orientation or ethnic identification.

This pattern was almost fully replicated in Experiment 3, again in line with H4c and H4d, and contrasting H4b. Here we also observed the negative correlation between ideological orientation and plausibility of the Outgroup experience intervention (leftists find it more plausible), which partially supports our H4a.

Table 20

Correlations between individual differences and plausibility assessment of two experimental conditions (Experiments 1-3)

	Experiment 1		**Experiment 2**		**Experiment 3**	
	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience
Ideological orientation	.04	-.24*	-.13	-.05	-.10	-.24**
Ethnic identification	**.22***	**-.23***	-.16	-.12	.06	-.13
Perspective taking	**-.05**	**.31****	.43***	.25**	.38***	.37***
Threat perception	**-.14**	**-.49*****	-.42***	-.23**	-.31***	-.25**
Outgroup contact	/	/	.27**	.21*	.05	.04

Note. ***$p < .001$, **$p < .01$, *$p < .05$. Correlation coefficients that significantly differ between the conditions are bolded.

To test H5, we used the same analytical strategy as for H4. However, we also looked at correlations between individual differences and Dual identity perception in the control condition, to get a deeper understanding of their relation when individuals are not exposed to any kind of intervention[25].

In Experiment 1, we observed a negative relation between ideological orientation and dual identity perception in both experimental conditions (Table 21), which is in line with H5a. This relation was even stronger in the control condition, indicating that our experimental interventions attenuated the impact of ideological orientation. In contrast to H5b, we did not find any relationship between ethnic identification and dual identity perception. In line with H5c, we observed a positive relation between perspective taking and dual identity perception in the Outgroup experience condition. Finally, in line with H5d, outgroup threat perception was negatively related to dual identity perception, especially in the Outgroup experience condition.

In Experiment 2, dual identity perception was again positively associated with perspective taking, and negatively with threat perception in both experimental conditions, which is in line with H5c and H5d. We observed a negative relation between ethnic identification and dual identity perception in the Outgroup experience and control conditions, whilst this relation was insignificant in the Ingroup norm condition. This contrasts our H5b, however, it seems that the Ingroup norm intervention somewhat attenuated negative relation between identification and dual identity perception observed in the Control condition. Finally, we partially confirmed H5a, given that the negative relation between ideological orientation and dual identity perception was observed only in the Outgroup experience condition.

As for Experiment 3, the results again supported H5c (positive correlation between perspective taking and dual identity perception in Outgroup experience condition) and H5d (negative correlation between outgroup threat perception and dual identity perception in Outgroup experience condition). Again, the pattern of the correlations was the same in the Ingroup norm condition as well. We did not find any correlation between ethnic identification and dual identity perception, which goes against the H5b. Finally, we confirmed H5a – in both experimental conditions, ideologically right-leaning individuals were lower in dual identity perception compared to leftists. Notably,

[25] We did not do so for the correlates of plausibility assessment given that plausibility of content unrelated to intergroup relations was, expectedly, unrelated to any individual differences variables of interest.

however, there was no relationship between ideological orientation and dual identity perception in the control condition.

Finally, H6 – positive relation between plausibility assessment of experimental interventions and dual identity perception – was confirmed in all three experiments (see the last row of Table 21).

Table 21

Correlations between individual differences and dual identity perception (Experiments 1-3)

	Experiment 1			**Experiment 2**			**Experiment 3**		
	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control
Ideological orientation	-.21*	-.27**	-.41***	-0.11	-.22**	-.20*	-.24**	-.25**	-.07
Ethnic identification	0.04	-0.19	-.22*	-0.13	-.22**	-.06	-0.09	-0.09	-.08
Perspective taking	0.18	.30**	.28**	.45***	.38***	.29**	.35***	.34***	.20*
Threat perception	**-.33*** **	**-.62*** **	-.44***	-.47***	-.40***	-.41***	-.33***	-.34***	-.26**
Outgroup contact	/	/	/	.18*	.31***	.19*	.15	.12	.19*
Plausibility	**.32*** **	**.61*** **	.36***	**.39*** **	**.40*** **	**0.09**	**.45*** **	**.63*** **	**0.07**

Note. ***p < .001, **p < .01, *p < .05. Correlation coefficients that significantly differ between the conditions are bolded.

Exploratory analyses

Following the data analysis plan, we ran hierarchical linear regression analyses for each experiment to test how experimental interventions, individual differences, and the interaction between them predict (1) plausibility assessment and (2) dual identity perception. We statistically controlled for gender, age, education and degree of religiosity in each analysis. Ingroup norm condition was set as a reference level.

Given the sample sizes ($300 < N < 400$), we could not expect to detect the interaction between experimental intervention on one hand and all individual differences on the other. Therefore, we introduced the interactions one by one, according to the differences in the magnitude of correlations between conditions. Using the same strategy as in the pilot experiment, we introduced the interaction terms only for the variables whose patterns of correlations with the outcome significantly differed between the experimental conditions. In fact, such different patterns of correlation between an individual differences variable and outcome would indicate that that particular variable would be a good candidate for a moderator. To make sure that we did not omit a potentially meaningful difference between the magnitude of correlations, we used the alpha error probability of .10 as a criterion for significance. These are detailed in the APPENDIX H.

Predictors of plausibility assessment

For the sake of clarity, we will report only standardized regression coefficients and coefficients of determination here. The details of the regression analyses are reported in APPENDIX I.

As detailed in Table 17, after controlling for gender, age, religiosity, and education, Outgroup experience intervention was assessed as more plausible than the Ingroup norm intervention ($\beta = .18$, $p = .003$). When we introduced the individual differences (Step 2), we observed a significant

contribution of Ethnic identification (β = .16, p = .025) and Threat perception (β = -.28, p < .001). Then we added the interaction terms one by one, ordered by the magnitude of the difference between their correlation with plausibility assessment in two experimental conditions. As reported in Table 17, Ethnic identification moderated the difference in plausibility between the two experimental conditions, and this effect remained stable after introducing the rest of interactions.

Table 22

Predictors of plausibility assessment, Experiment 1

	Step 0	**Step 1**	**Step 2**	**Step 3**	**Step 4**	**Step 5**
	β	**β**	**β**	**β**	**β**	**β**
Gender (1 = female)	.06	.07	.06	.07	.06	.06
Age	.05	.06	.06	.05	.06	.06
Religiosity	-.10	-.10	-.05	-.05	-.04	-.05
Education	-.02	-.02	.00	.02	.03	.03
Intervention type (OG experience vs. IG norm)		.18**	.18**	.18**	.18**	.18**
Intervention type (control vs. IG norm)		.00	.00	.00	.00	.00
Ideological orientation			-.02	-.01	-.03	-.03
Ethnic identification			.15*	.36***	.36***	.36***
Perspective taking			.04	.03	.02	-.08
Threat perception			-.27***	-.27***	-.27*	-.29**
Ethnic identification * Intervention type (OG experience vs. IG norm)				-.24***	-.21**	-.20**
Ethnic identification * Intervention type (control vs. IG norm)				-.13	-.16*	-.16*
Threat perception * Intervention type (OG experience vs. IG norm)					-.08	-.04
Threat perception * Intervention type (control vs. IG norm)					.07	.09
Perspective taking * Intervention type (OG experience vs. IG norm)						.11
Perspective taking * Intervention type (control vs. IG norm)						.08
R^2 **[95% CI]**	.016 [.00, .04]	.047* [.00, .08]	.116*** [.04, .16]	.146*** [.05, .19]	.155*** [.06, .19]	.161*** [.06, .19]
R^2_{adj}	.004	.033	.088	.114	.117	.118
ΔR^2 **[95% CI]**		.031** [.00, .07]	.069*** [.02, .12]	.030** [.00, .06]	.009 [-.01, .03]	.006 [-.01, .02]

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

Figure 7 depicts the observed interaction between ethnic identification and intervention type. Despite the observed difference between the two interventions regarding their assessed plausibility, they seem to be equally plausible for the individuals who strongly identify with their ethnic ingroup, which is in line with theoretical assumptions. On the other hand, for participants whose ethnic identification was not that high, Outgroup experience intervention was significantly more plausible.

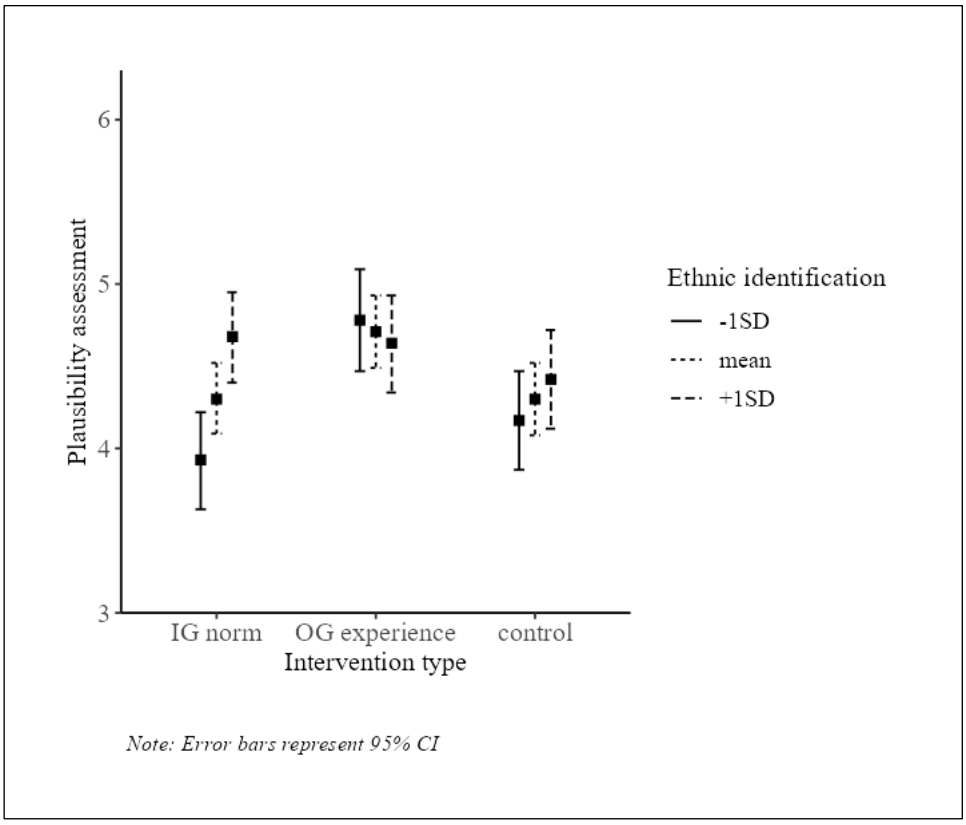


Figure 7. *Effect of the interaction between ethnic identification and intervention type in predicting plausibility assessment (Experiment 1)*

In Experiment 2, we again observed a significant effect of intervention type after controlling for gender, age, education, and religiosity. However, it did not originate from the difference between the experimental conditions, but from the difference between control condition and Ingroup norm intervention (β = -.27, $p < .001$). We also detected a stable negative main effect of threat perception (see Table 23). We did not test for any interactions, given that the correlations of our potential moderators and plausibility were similar in the two experimental conditions.

Table 23

Predictors of plausibility assessment, Experiment 2

	Step 0	**Step 1**	**Step 2**
	β	**β**	**β**
Gender (1 = female)	.04	.04	.07
Age	.12*	.12*	.05
Religiosity	-.13*	-.13**	-.13*
Education	-.01	-.01	-.03
Intervention type (OG experience vs. IG norm)		.02	.02
Intervention type (control vs. IG norm)		-.27***	-.29***
Ideological orientation			.03
Ethnic identification			.11
Perspective taking			.10
Threat perception			-.15*
Outgroup contact			.07
R^2 **[95% CI]**	.038** [.00, .07]	.117*** [.05, .17]	.166*** [.08, .21]
R^2_{adj}	.028	.104	.140
ΔR^2 **[95% CI]**		.079*** [.03, .13]	.049** [.01, .09]

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

In Experiment 3, we detected the differences between experimental conditions after controlling for gender, age, education, and religiosity (Table 24). Consistent with what we reported in the *Hypotheses testing* section, Outgroup experience intervention was assessed as less plausible than the Ingroup norm one (β = -.21, $p < .001$). Additionally, the text in control condition was also less plausible than the Ingroup norm intervention content (β = -.29, $p < .001$). As expected, plausibility assessment was positively related to ethnic identification (β = .14, $p = .027$) and perspective taking (β = .14, $p = .022$). On the contrary, we found that the relation between plausibility assessment and threat perception was negative, as expected (β = -.14, $p = .024$).

Table 24

Predictors of plausibility assessment, Experiment 3

	Step 0	**Step 1**	**Step 2**	**Step 3**
	β	**β**	**β**	**β**
Gender (1 = female)	.10	.09	.07	.07
Age	-.00	-.01	.00	.00
Religiosity	.00	-.01	.01	.01
Education	-.17**	-.15**	-.18***	-.17***
Intervention type (OG experience vs. IG norm)		-.21***	-.19***	-.19***
Intervention type (control vs. IG norm)		-.29***	-.28***	-.28***
Ideological orientation			-.05	-.02
Ethnic identification			.13*	.14*
Perspective taking			.14*	.13*
Threat perception			-.14*	-.14*
Outgroup contact			-.00	-.01
Ideological orientation * Intervention type (OG experience vs. IG norm)				-.08
Ideological orientation * Intervention type (control vs. IG norm)				.03
R^2 **[95% CI]**	.043** [.01, .08]	.109*** [.05, .16]	.167*** [.08, .21]	.173*** [.08, .21]
R^2_{adj}	.033	.095	.143	.144
ΔR^2 **[95% CI]**		.066*** [.02, .11]	.058*** [.02, .10]	.006 [-.01, .02]

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

Predictors of dual identity perception

Using the same strategy as for the previous section, we explored the predictors of dual identity perception.

As shown in Table 25, we observed a significant effect of intervention type after controlling for gender, age, education, and religiosity. As expected, it came from the difference between the control and the reference condition (ingroup norm). Adding individual differences and plausibility into the model increased its predictive power, with threat perception and plausibility assessment as significant predictors. We found no interactions between the intervention type and individual differences.

Table 25

Predictors of dual identity perception (Experiment 1)

	Step 0	**Step 1**	**Step 2**	**Step 3**	**Step 4**
	β	**β**	**β**	**β**	**β**
Gender (1 = female)	.08	.10	.03	.03	.02
Age	.01	.01	.00	-.00	-.00
Religiosity	-.20***	-.17***	-.01	-.00	-.01
Education	-.05	-.05	-.01	-.00	.00
Intervention type (OG experience vs. IG norm)		.12*	.07	.07	.05
Intervention type (control vs. IG norm)		-.24***	-.24***	-.24***	-.24***
Ideological orientation			-.11	-.12	-.13
Ethnic identification			.11	.11	.12*
Perspective taking			.08	.07	.06
Threat perception			-.31***	-.24**	-.25**
Plausibility			.30***	.29***	.25***
Threat perception * Intervention type (OG experience vs. IG norm)				-.10	-.06
Threat perception * Intervention type (control vs. IG norm)				-.03	-.03
Plausibility * Intervention type (OG experience vs. IG norm)					.09
Plausibility * Intervention type (control vs. IG norm)					-.01
R^2 **[95% CI]**	.044* [.00, .09]	.141*** [.07, .20]	.398*** [.30, .45]	.403*** [.30, .45]	.408*** [.30, .45]
R^2_{adj}	.032	.125	.377	.378	.380
ΔR^2 **[95% CI]**		.097*** [.04, .16]	.257*** [.18, .33]	.005 [-.01, .02]	.005 [-.01, .02]

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

In Experiment 2, we did not observe any effect of the intervention type on dual identity perception (Table 26). However, consistent with Experiment 1, we found a negative effect of threat perception and a positive effect of plausibility assessment. Additionally, we found a positive effect of perspective taking on dual identity perception. Finally, introducing the interaction between experimental condition and plausibility significantly increased the predictive power of the model.

Table 26

Predictors of dual identity perception (Experiment 2)

	Step 0	**Step 1**	**Step 2**	**Step 3**
	β	**β**	**β**	**β**
Gender (1 = female)	.01	.02	.04	.04
Age	.20***	.20***	.07	.09
Religiosity	-.05	-.05	.06	.07
Education	-.01	-.01	-.04	-.04
Intervention type (OG experience vs. IG norm)		.04	.04	.03
Intervention type (control vs. IG norm)		-.04	-.02	-.04
Ideological orientation			-.03	-.04
Ethnic identification			.05	.05
Perspective taking			.14*	.13*
Threat perception			-.31***	-.31***
Outgroup contact			.01	.00
Plausibility			.17**	.22*
Plausibility * Intervention type (OG experience vs. IG norm)				.06
Plausibility * Intervention type (control vs. IG norm)[26]				-.11
R^2 **[95% CI]**	.045** [.01, .08]	.050 [.01, .08]	.241*** [.15, .29]	.254*** [.16, .30]
R^2_{adj}	.035	.035	.218	.226
ΔR^2 **[95% CI]**		.005 [-.01, .02]	.191*** [.12, .26]	.013* [.00, .03]

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

[26] This term was significant when the Outgroup experience condition was set as a reference level.

Figure 8 depicts the interaction between plausibility assessment and intervention type. Although for both interventions we observed a positive plausibility – dual identity relation, it is notable that the Outgroup experience intervention was more sensitive to plausibility assessment.

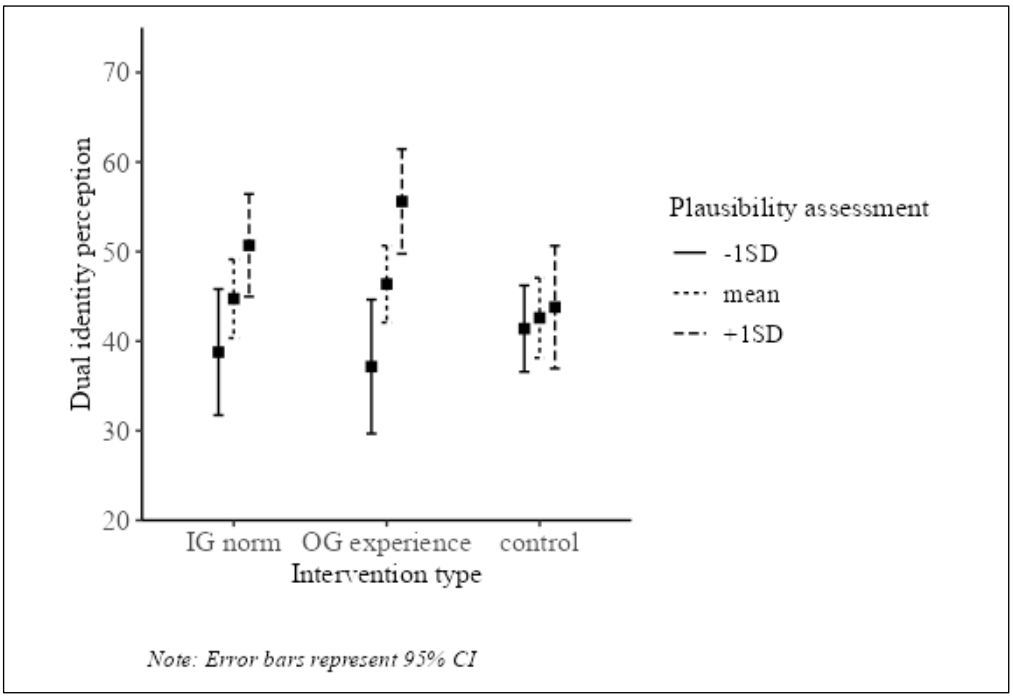


Figure 8. *Interaction between intervention type and plausibility in predicting dual identity perception in Experiment 2*

In Experiment 3, we did not observe any effect of intervention type after controlling for gender, age, education, and religiosity (Table 27). However, when we introduced the individual differences into the model, a difference between the two intervention types became significant in that Outgroup experience intervention was more effective than the Ingroup norm one. Adding the individual differences into the model also increased its predictive power due to the significant associations between threat dual identity perception and threat perception, outgroup contact, and plausibility assessment. Finally, in the last step we observed a significant interaction between plausibility assessment and experimental condition.

Table 27
Predictors of dual identity perception (Experiment 3)

	Step 0	Step 1	Step 2	Step 3
	β	**β**	**β**	**β**
Gender (1 = female)	.09	.07	.01	-.02
Age	-.06	-.06	-.09	-.09
Education	-.12*	-.12*	-.11*	-.10*
Religiosity	-.05	-.05	.05	.04
Intervention type (OG experience vs. IG norm)		.07	.15**	.17**
Intervention type (control vs. IG norm)		-.07	.01	-.00
Ideological orientation			-.07	-.07
Ethnic identification			.03	.03
Perspective taking			.07	.02
Threat perception			-.21***	-.21***
Outgroup contact			.13*	.14**
Plausibility			.30***	.41***
Plausibility * Intervention type (OG experience vs. IG norm)				.06
Plausibility * Intervention type (control vs. IG norm)				-.21**
R^2 **[95% CI]**	.034** [.00, .07]	.050** [.01, .08]	.262*** [.17, .31]	.299*** [.20, .35]
R^2_{adj}	.024	.035	.239	.273
ΔR^2 **[95% CI]**		.016* [.00, .04]	.213*** [.14, .28]	.037** [.01, .07]

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

As shown in Figure 9, the effectiveness of intervention types was moderated by their assessed plausibility. Both interventions' effectiveness was related to plausibility, but this effect was stronger for the Outgroup experience intervention, following the pattern observed in Experiment 2. In fact, although we previously saw that the overall effectiveness of both intervention types was low in the Experiment 3, it seems that the Outgroup experience intervention did have a potential to induce perception of the gateway group's dual identity, but only for those people who found it plausible.

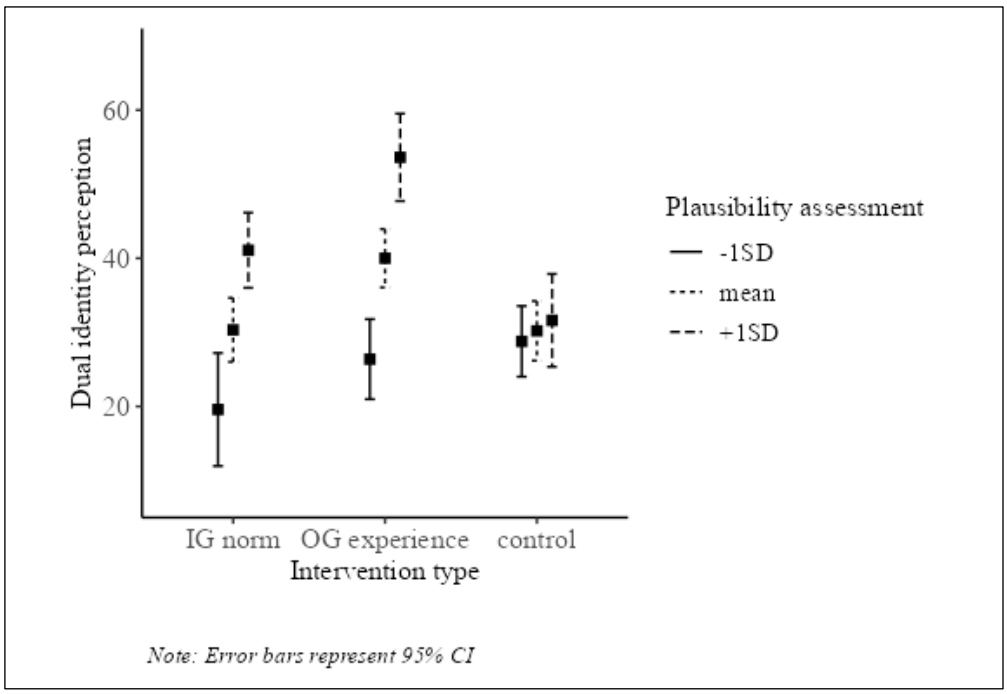


Figure 9. *Interaction between intervention type and plausibility in predicting dual identity perception in Experiment 3*

Study 2 discussion

After obtaining initial evidence about the relation between plausibility of two dual-identity interventions and dual identity perception after the exposure to them (Pilot experiment), we conducted three experiments to further explore the factors that impact plausibility and effectiveness of these interventions. Using the experimental design, we compared two intervention types that contained the same information about gateway group members' identities, framed from different perspectives – a) ingroup norm perspective (how members of the majority group perceive gateway group's identity) and b) outgroup experience perspective (how members of the gateway group feel about their identity). Furthermore, we explored whether individual differences in ideological orientation, ethnic identification, perspective taking, and outgroup threat perception were related to plausibility and effectiveness of the intervention. Finally, we examined whether the correlations between individual differences on one hand and interventions' plausibility and effectiveness on the other, differed regarding the intervention type. For the exploratory purposes, we also tested the relations between these variables, as well as their interactions, in regression models. These effects were examined in three post-conflict intergroup contexts: Serbia, Federation of Bosnia and Herzegovina, and Republika Srpska.

We will first summarize the results of our three experiments, and then discuss the outcomes in psychological terms.

Overview of the results

After getting the initial insight into the plausibility and effectiveness of two intervention types, as well as their relations with individual differences (see *Summary of the pilot experiment results* section), we proceeded to test them in three independent experiments. Initial analyses indicated that the two dual-identity interventions performed differently across the three contexts. We could not directly statistically compare the three experiments given that a) the samples were drawn from different populations, and b) the studies would be underpowered for such comparison. However, we observed that plausibility assessment of the Ingroup norm intervention was relatively stable across contexts. On the other hand, Outgroup experience intervention was assessed as highly plausible in Serbia, whereas its plausibility in Republika Srpska was relatively low.

Looking into the differences in plausibility of two intervention types, they varied across the experiments. In the context of Serbia (Experiment 1), Outgroup experience intervention was assessed as more plausible than the Ingroup norm one. This did not replicate in the context of Federation of Bosnia and Herzegovina (Experiment 2), where the two types of gateway group intervention were assessed as equally plausible, nor in the context of Republika Srpska (Experiment 3), where the Ingroup norm intervention was assessed as more plausible. This goes against our Hypothesis 1 (*both interventions will be equally plausible*), except for Experiment 2, where H1 was confirmed.

On the other hand, in line with H2, the two interventions were equally effective in each experiment, despite their effectiveness varied across the experiments.

Ingroup norm intervention was effective (compared to the control) only in the context of Serbia, but not in the other two contexts, meaning that H3a was confirmed only in Experiment 1. On the other hand, Outgroup experience intervention was effective in the context of Serbia and Republika Srpska, but not in the Federation of Bosnia and Herzegovina, meaning that H3b was supported in Experiments 1 and 3.

Correlations between individual differences and plausibility assessment were also partly inconsistent across the experiments. Ideological orientation was only related to the plausibility of Outgroup experience intervention in the contexts of Serbia and Republika Srpska, but not in the Federation of Bosnia and Herzegovina. The direction of this correlation was as hypothesized – individuals who are more right leaning in terms of ideology found the intervention content less plausible than those who are more left leaning. On the other hand, ideological orientation was unrelated to Ingroup norm intervention's plausibility in either of contexts. This means that our H4a was only partially supported.

We observed a positive correlation between Ethnic identification and plausibility of Ingroup norm intervention (H4b) only in the context of Serbia i.e. in Experiment 1, but not in the other two experiments. Interestingly, correlation between Ethnic identification and Outgroup experience intervention was negative, indicating that ingroup identification can differently affect the reactions to the two interventions.

Correlations between perspective taking and threat perception on one hand, and plausibility of the Outgroup experience intervention on the other, were consistent across the experiments. Individuals higher in perspective taking were consistently more likely to find the content of Outgroup experience intervention plausible, which is in line with H4c. When it comes to threat perception, it was negatively related to assessed plausibility of the Outgroup experience intervention, confirming our H4d.

We observed a similar pattern of correlations between individual differences and dual identity perception, but with a few exceptions. Ideological orientation was consistently negatively related to dual identity perception in the Outgroup experience condition i.e. more conservative (right-wing) individuals perceived the gateway group as weaker dually identified. As for the Ingroup norm condition, this correlation was positive in Experiments 1 and 3, but not in Experiment 2, making our H5a partially confirmed. Contrary to our H5b, ethnic identification was not related to dual identity perception in the Ingroup norm condition. Perspective taking was positively related to dual identity perception in the Outgroup experience condition in all three experiments, confirming our H5c. Finally, in line with the H5d, threat perception was negatively related to dual identity perception.

In line with H6, we observed positive correlation between dual identity perception and plausibility assessment of each intervention in all three experiments.

Plausibility assessment and its antecedents in different contexts

Overall, the Ingroup norm intervention was assessed as plausible ($M > 4$) in all three contexts. The same was true for the Outgroup experience intervention in the contexts of Serbia and FBH, but

not in Republika Srpska. Considering which group were portrayed as dually identified, and which framing was used, this exception was somewhat foreseeable. The intervention portrayed Bosniaks from Republika Srpska as strongly tied to Bosniak ethnic group and entity of Republika Srpska which is unlikely to be true. In fact, although around 15% of its citizens are ethnic Bosniaks, Serbian ethno-nationalism plays a significant role in the everyday life of its citizens (Lero, 2023). This climate makes it improbable for ethnic minorities to be tied to Republika Srpska. On the other hand, in contexts FBH (Experiment 2), we portrayed gateway groups as having a strong *Bosnian* identity which is a political, but also a geographical determinant. By the same token, in the context of Serbia (Experiment 1), gateway group was portrayed as strongly identified with Serbia, which is the country whose citizenship they hold and are expected to be identified with.

This was reflected in differences between the conditions as well: Outgroup experience intervention was more plausible than the Ingroup norm one in the context of Serbia, whereas the direction of this difference reversed in the context of Republika Srpska. In the Federation of Bosnia and Herzegovina, the two interventions were assessed as equally plausible. The pattern of differences was preserved when we controlled for gender, age, level of education, and degree of religiosity (we will refer to them as control variables).

Across all three contexts, we observed a negative relationship between perceived outgroup threat and plausibility assessment, that remained significant even after taking into account the control variables and the other measured individual differences. This supports our hypothesis that plausibility assessment of the Outgroup experience intervention is related to threat perception. In other words, the individuals who feel threatened by the outgroup are less likely to trust the gateway group who hold a partial outgroup identity. In addition, we observed that threat perception was negatively related to plausibility assessment of the ingroup norm intervention, indicating the rejection of the information about the gateway group's identity even when it comes from the ingroup members.

Positive correlation between perspective taking and plausibility assessment of Outgroup experience intervention was also consistent across the contexts. More precisely, individuals who find it easy to take an outgroup members' point of view are also likely to trust the gateway group when it comes to their dual ethnonational identification.

Interestingly, we observed a positive zero-order correlation between ethnic identification and plausibility assessment of the Ingroup norm intervention only in Serbian context. Test of the interaction between intervention type and ethnic identification indicated that, taking the other tested variables into account, plausibility of the Ingroup norm intervention increases with strength of ethnic identification. Although we found that the Outgroup experience intervention was overall more plausible than the Ingroup one, this difference disappeared for the individuals who identify strongly with their ethnic ingroup. The absence of this pattern in the other two contexts can be attributed to the overall strong ethnic identification in our samples ($M > 5.5$ on a 7-point scale), and therefore relatively low variability of this characteristic.

Finally, our results suggest that plausibility assessment of two gateway group interventions is relatively insensitive to ideological orientation. However, we again had a relatively restricted range of ideology in our samples, which prevents us from bringing conclusions about the absence of this relationship.

Interventions effectiveness and its antecedents in different contexts

Unlike plausibility assessment, absolute values of effectiveness of the two intervention types varied across the contexts. Dual identity perception was significantly above its theoretical average in Serbian context (Experiment 1), and much below it in the context of Republika Srpska (Experiment 3). It did not differ from the theoretical average in the context of the Federation of Bosnia and Herzegovina (Experiment 2). These variations were also observed in the control (i.e., baseline) conditions that was around average in the Serbian context and far below it in the context of Republika

Srpska. Baseline perception of dual identity perception in FBH context was similar to that in the experimental conditions. Values of dual identity perception in Republika Srpska (Experiment 3) were noticeably lower than in the two other contexts. A post-hoc analysis of the perception of gateway group as an ingroup and outgroup, which were the two variables that were combined to make a dual identity perception score, indicated that Bosniaks from Republika Srpska were strongly perceived as tied to their Bosniak ethnicity (outgroup; M = 83.3, SD = 17.0). On the other hand, they were perceived as loosely identified with Republika Srpska as an entity they live in (ingroup; M = 30.4, SD = 26.3). The difference between these perceptions was much lower in the contexts of Serbia ($M_{outgroup}$ = 77.4, $SD_{outgroup}$ = 19.2; $M_{ingroup}$ = 43.5, $SD_{ingroup}$ = 23.6) and FBH ($M_{outgroup}$ = 78.3, $SD_{outgroup}$ = 20.4; $M_{ingroup}$ = 47.7, $SD_{ingroup}$ = 32.7).

Relative differences between the intervention types' effectiveness varied across the experiments. In Serbian context (Experiment 1), dual identity perception was significantly higher in both experimental conditions compared to the control. This means that both types of gateway group intervention were effective. In the context of Republika Srpska (Experiment 3), Outgroup experience intervention was effective in dual identity perception induction. On the contrary, none of the intervention types was effective in the context of Federation of Bosnia and Herzegovina (Experiment 2). This did not change after controlling for age, gender, education, and degree of religiosity.

We found consistent negative correlations between outgroup threat and dual identity perception. The more individuals found the outgroup threatening, the lower their perception of gateway group's dual identity. This pattern occurred for those exposed to the Outgroup experience intervention, which we expected to happen due to the lower trust in the claims of threatening outgroup members. It, however, also occurred in the Ingroup norm condition, as well as in the control condition, indicating that our interventions are generally less likely to be effective for individuals who find the outgroup threatening. The positive direction of correlation between dual identity perception and perspective taking indicates that gateway group interventions can be especially effective for individuals who are high in dispositional perspective taking. Finally, consistent negative correlations between dual identity perception and ideological orientation indicated that both our interventions are more likely to be effective among people on the left-hand side of the ideological spectrum.

These results call for caution when we test and apply our interventions. As suggested by some researchers (Hameiri & Bar-Tal, 2016; Nir & Halperin, 2024), individuals of different ideological profiles are likely to differently react on the content of intergroup intervention. We broadened these findings by stepping beyond ideology and showed that ethnocultural perspective taking and perceived outgroup threat can also shape effectiveness of the intervention, i.e., its immediate effects on the focal construct (the one that is to be manipulated). This means that individuals who are more open to take the outgroup's perspective, and feel less threatened by the outgroup, are also more likely to react to the gateway group intervention in an expected way. Considering that both perspective taking and threat perception are related to intergroup bias, our results suggest that gateway group intervention, regardless of its framing, is most likely to induce the perception of dual identity to the individuals whose bias is already relatively low. This questions the applicability of dual identity interventions for intergroup bias reduction beyond the experimental context. However, since we did not measure bias itself, we will have a more precise answer to this question after the final set of the experiments, i.e., in Study 3 of this thesis.

Does interventions' plausibility reflect on their effectiveness?

One of the main aims of this set of experiments was to disentangle the relation between interventions' effectiveness and assessed plausibility. Our results suggest that this relation exists, and that it is consistently positive. Overall, perceived plausibility seems to be an important precursor of intervention's effectiveness. Furthermore, our results indicate that some of the determinants of both plausibility assessment and dual identity perception are ideological beliefs, ethnocultural perspective taking, and perceived outgroup threat. In other words, individuals who are a) more on the left-hand side of ideological spectrum, b) more willing to take outgroup's perspective, and c) feel less

threatened by the outgroup, are more likely to both assess the content about gateway group's identity as plausible AND perceive them as dually identified after learning so.

Moreover, our results suggest that plausibility assessment is especially important for intervention's effectiveness when a) the intervention is framed from the outgroup perspective (compared to the ingroup perspective), and b) the intergroup context is more charged with threat (Bosnia and Herzegovina compared to Serbia). In the following set of experiments, we are going to examine the relationship between plausibility of two gateway group intervention types and their outcomes.

5. Study 3: Outcomes of the two dual-identity interventions and their relationship with interventions' plausibility

To further explore the outcomes of two intervention types, as well as their relations with plausibility assessment, we conducted two experiments using the between-subjects design. We used the same interventions as in experiments 1-3. Experiment 4 was conducted in Serbia, whereas Experiment 5 was conducted in the Federation of Bosnia and Herzegovina. Besides that, the procedures of the experiments were identical.

Hypotheses

We pre-registered the following hypotheses[27]:

H7. Participants in both experimental conditions will have higher scores than the participants in the control condition on the following outcomes: Perception of the gateway group as a bridge between the ingroup and the outgroup (H7a), Perceived ingroup-outgroup overlap (H7b), Social closeness to the outgroup[28] (H7c), Feelings towards the outgroup (H7d), and Reconciliation intentions (H7e).

To disentangle the relationship between the intervention types, their plausibility assessment, and the outcomes, we also tested for the interactions between intervention type and plausibility assessment. In the preregistration, we planned these interactions to be tested, but we did not specify any related hypotheses. However, the results of Experiments 2 and 3 indicated that the Outgroup experience intervention is more sensitive to plausibility (compared to the Ingroup norm intervention), in that plausibility of the former is more important for the perception of gateway group's dual identity than plausibility of the latter. Given that the interaction effects observed in the previous set of experiments were weak, we aimed to avoid the necessity to use correction for *p*-value inflation here. Thus, since the correlations between Social closeness, Feelings, and Reconciliation intentions were strong (see *Intercorrelations* subsection), we used principal component analysis to obtain the score of Outgroup attitude from these three variables. Therefore, we specified an additional hypothesis:

H8. Plausibility assessment will moderate the intervention effects on Outgroup attitude, in that the relation between plausibility and attitude will be stronger in the Outgroup experience condition than in the Ingroup norm condition.

For exploratory purposes, we tested the relationship between plausibility and each of the proposed outcomes in each of the experimental conditions.

Method

Design and procedure

The whole procedure prior to the exposure to experimental intervention was the same as in Experiments 1 – 3. After filling in the scales measuring individual differences in Ethnic identification, Perspective taking, Threat perception, and Contact with the outgroup, participants were randomly assigned to one of three conditions: a) Ingroup norm intervention, b) Outgroup experience intervention, or c) control condition. When they read the vignettes, they proceeded to answer the comprehension and plausibility checks, as well as the manipulation check (dual identity perception)

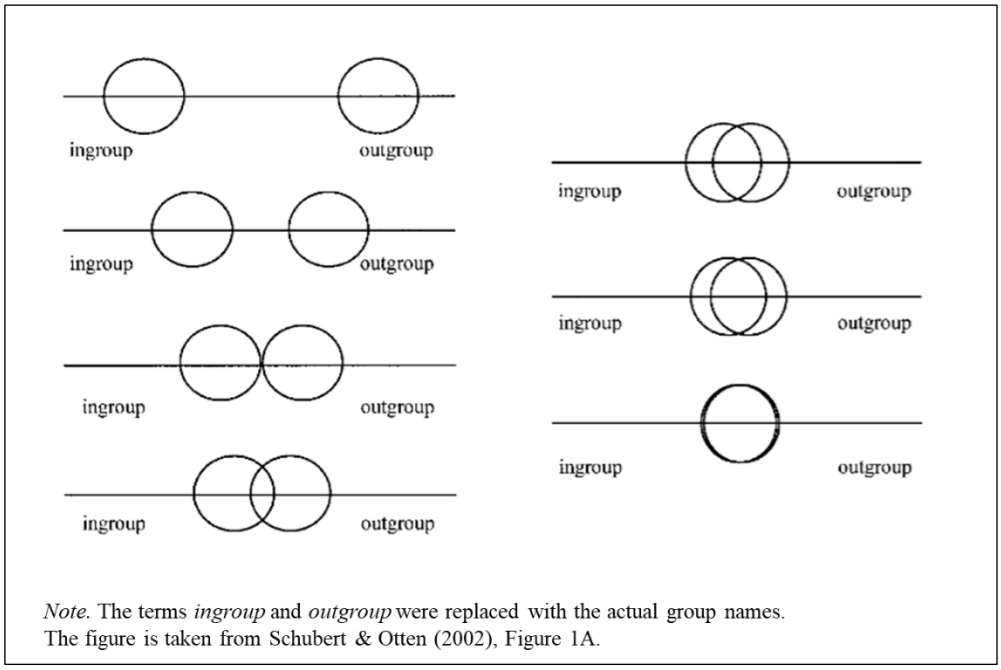
[27] Pre-registration protocol is available here https://aspredicted.org/zrmt-wt6y.pdf. There was an additional pre-registered hypothesis regarding the relation between threat perception and measures of attitude. Its testing was included into the planned analyses, and it was confirmed, however, it is not in the focus of this thesis, so we decided not to report it here.

[28] We pre-registered and measured it as a social distance towards the outgroup. However, since all the other outcomes reflect positive sentiment towards the outgroup, we reversed the scale so that it represents social closeness instead of distance.

like in the previous set of experiments. After the checks, they filled in the measures of perception of the gateway group, as well as attitudes towards the outgroup.

Perception of the gateway group as a bridge between the ingroup and the outgroup was assessed using two items, following the procedure by Levy et al. (2017): *To what extent do you think that [gateway group] can be: 1) a bridge that connects Serbs and Bosniaks [Bosniaks and Serbs], 2) a mediator between Serbs and Bosniaks [Bosniaks and Serbs]?* Participants answered using a 7-point Likert scale. Higher scores indicated stronger perception of the gateway group as a bridge between the two groups. Internal consistency was high (see Table 29).

The perceived closeness between ingroup and outgroup was measured using the procedure developed by Schubert and Otten (2002). Participants were shown seven diagrams that depict closeness between ingroup and outgroup – from high distance to complete overlap (Figure 10). Their task was to choose the diagram that describes their perception of closeness between Serbs and Bosniaks [Bosniaks and Serbs].



Note. The terms *ingroup* and *outgroup* were replaced with the actual group names. The figure is taken from Schubert & Otten (2002), Figure 1A.

Figure 10. *Pictorial measure of ingroup-outgroup overlap* (Schubert & Otten, 2002)

Social closeness to the outgroup was measured using the Bogardus' Social distance scale. Participants were asked to what extent they would accept to have a Bosniak [Serb] as a 1) co-worker, 2) boss, 3) close friend, 4) family member's partner, 5) own partner. Participants answered on a 7-point scale. We computed a mean score, where higher values represented higher social closeness.

Feelings towards the outgroup were measured using the Feeling thermometer (Converse & Presser, 1986).

Reconciliation intentions were measured using the short scale from Petrović, (2017). The scale consists of four items, and the answers are given on a 7-point scale. Scores are calculated as a mean of four items, and higher values indicate stronger reconciliation intentions.

Demographic variables, religiosity, and ideological orientation were registered on the very end of the procedure, using the same items as in Experiments 1-3.

Attention check. We embedded attention check in the Threat perception scale. Participants who failed it were automatically screened out of the questionnaire.

The experiments were distributed using SoSci survey platform (Leiner et al., 2021).

Participants

Power analysis conducted in GPower (Faul et al., 2007) indicated that the minimum sample size for detecting a small interaction effect of $f^2 = .02$ with power of .80 and α error probability of .05 is N = 387. Out of 441 participants who met the criteria for participation in the Experiment 4 (Serbian citizenship and ethnic identification, at least 18 years old), one failed the comprehension check[29] and was, therefore, excluded from the final sample. In Experiment 5, six out of 354 participants failed on the same check and were excluded. Whilst we managed to collect the data from 440 participants, the sample in FBH was smaller than intended due to a lack of resources for data collection. Post-hoc power analysis indicated that the power we achieved with this sample size was $1-\beta = .75$. Samples descriptions are detailed in Table 28.

Table 28

Samples description

	Experiment 4	**Experiment 5**
N	440	348
Country (entity)	Serbia	Bosnia & Herzegovina (FBH)
Ethnicity	Serbian	Bosniak
Recruitment type	University courses and social media ads	University courses and social media ads
Age range (M, SD)	18-73 (*M* = 33.3, *SD* = 14.1)	18-76 (*M* = 32.5, *SD* = 13.9)
Gender structure	78% women	68% women
Ingroup	Serbs from Serbia	Bosniaks from FB&H
Outgroup	Bosniaks	Serbs
Gateway group	Bosniaks from Serbia	Serbs from FB&H

Data analysis plan

To test H7, we conducted five separate one-way ANOVAs for each outcome. We specified planned contrast to compare each experimental condition to the control one. Finally, H8 was tested within the multiple linear regression model. Principal extracted out of social closeness with outgroup, outgroup feelings, and reconciliation intentions served as an outcome. We statistically controlled for all measured variables: controls from Study 2 (gender, age, education, and religiosity) and individual differences (ideological orientation, ethnic identification, perspective taking, threat perception, and contact experiences). After the block of control variables, we added intervention type and plausibility assessment. In the final step, we introduced the interaction between these two variables.

The data was analyzed using R 4.4.1 statistical software.

[29] As we showed in the previous chapter, the used comprehension check was unlikely to be subject to motivated reasoning. That is why we used it as an exclusion criterion.

Results of Study 3

Descriptives and correlations

Descriptive statistics and reliability coefficients of all variables across two experiments are detailed in Table 29. All scales had excellent reliability, except for Perspective taking, Contact and Reconciliation intentions which were somewhat lower, but still above .70. Almost all variables were significantly skewed, indicating that our participants were, on average, liberals/progressives, with strong ethnic identification, high in dispositional perspective taking, low in outgroup threat perception, and generally positively oriented towards the outgroup. Given the significant skewness ($|zSk| > 1.96$), we re-ran all inferential statistical analyses on normalized variables (Appendix J).

Intercorrelations between the variables of individual differences and outcomes for both experiments are detailed in Table 30. For more information, intercorrelations broken by the experimental condition can be found in the Appendix K.

Table 29

Descriptive statistics and reliabilities - Experiments 4 and 5

Experiment 4 (*N* = 440)	**M**	**SD**	**zSk**	**zKu**	**α**	**ω**
Ideological orientation (1-11)	3.85	2.61	7.66	-0.04	/	/
Ethnic identification (1-7)	4.91	1.64	-5.66	-0.98	.87	.87
Perspective taking (1-7)	5.14	1.17	-4.98	-0.1	.68	.70
Threat perception (1-7)	2.57	1.29	7.55	0.8	.90	.91
Contact (1-5)	2.04	0.80	7.09	1.34	.76	.76
Plausibility (1-6)	4.52	0.91	-4.80	1.01	.85	.85
Dual identity perception (0-100)	56.29	23.65	-2.88	-0.83	/	/
GG as a bridge (1-7)	4.79	1.42	-5.07	-0.18	.93	.93
Ingroup-outgroup overlap (1-7)	4.04	1.44	-1.72	-0.55	/	/
Social closeness (1-7)	6.15	1.21	-14.48	5.03	.89	.89
Outgroup feelings (0-100)	63.90	23.49	-3.44	-0.43	/	/
Reconciliation intentions (1-7)	6.30	0.85	-15.32	6.95	.74	.74
Experiment 5 (*N* = 348)	**M**	**SD**	**zSk**	**zKu**	**α**	**ω**
Ideological orientation (1-11)	4.07	2.60	4.37	-0.65	/	/
Ethnic identification (1-7)	5.59	1.49	-9.57	1.87	.90	.90
Perspective taking (1-7)	4.52	1.28	-1.07	-0.71	.66	.68
Threat perception (1-7)	3.93	1.65	-0.74	-1.73	.91	.91
Contact (1-5)	3.20	1.11	0.35	-2.11	.83	.84
Plausibility (1-6)	4.06	1.16	-3.37	0.06	.89	.89
Dual identity perception (0-100)	44.26	26.35	0.71	-1.49	/	/
GG as a bridge (1-7)	4.50	1.62	-3.44	-1.07	.89	.89
Ingroup-outgroup overlap (1-7)	3.12	1.64	3.98	-0.78	/	/
Social closeness (1-7)	5.49	1.57	-6.67	-0.45	.90	.90
Outgroup feelings (0-100)	59.36	27.91	-1.51	-1.45	/	/
Reconciliation intentions (1-7)	5.40	1.30	-5.94	0.27	.82	.83

Table 30

Intercorrelations in Study 3

	Ideological orientation	Ethnic ID	Perspective taking	Threat perception	Contact	Plausibility	Dual identity perception	GG bridge	IG-OG overlap	Social closeness	OG feelings	Reconciliation intentions
Ideological orientation		.35***	-.28***	.29***	-.29***	-.10	-.18***	-.12***	-.26***	-.43***	-.29***	-.31***
Ethnic identification	.49***		-.38***	.41***	-.33***	-.17***	-.13***	-.23***	-.28***	-.43***	-.26***	-.39***
Perspective taking	-.33***	-.09		-.59***	.34***	.24***	.36***	.36***	.38***	.54***	.52***	.57***
Threat perception	.39***	.22***	-.52***		-.40***	-.33***	-.46***	-.41***	-.42***	-.55***	-.49***	-.58***
Contact	.00	.02	.19***	-.03		.30***	.31***	.39***	.40***	.46***	.40***	.52***
Plausibility	-.02	.11***	.08	-.21***	.03		.35***	.36***	.34***	.39***	.38***	.46***
Dual identity perception	-.16***	-.03	.17***	-.37***	.02	.32***		.46***	.50***	.41***	.48***	.47***
GG as a bridge	-.14***	.01	.33***	-.40***	.03	.31***	.39***		.47***	.46***	.43***	.59***
Ingroup-outgroup overlap	-.15***	-.07	.32***	-.41***	.12***	.20***	.36***	.34***		.50***	.43***	.50***
Social closeness	-.33***	-.21***	.43***	-.63***	.05	.17***	.35***	.32***	.39***		.59***	.74***
Outgroup feelings	-.27***	-.04	.41***	-.56***	.20***	.15***	.43***	.37***	.39***	.58***		.58***
Reconciliation intentions	-.34***	-.22***	.45***	-.57***	.09***	.27***	.33***	.37***	.33***	.61***	.54***	

Note. ***$p < .001$, **$p < .01$, *$p < .05$. Correlations in the Serbian sample (Experiment 4) are given below the diagonal, while the FBH sample (Experiment 5) is above it. "OG social closeness" represents a reversely coded social distance.

Patterns of intercorrelations in Experiment 4 (below the diagonal) and 5 (above the diagonal) are mostly similar. The most pronounced difference is in the correlations between contact experiences and outcome variables. While the frequency of positive contact experiences is almost unrelated to outgroup perception and attitudes in the Serbian sample, it is moderately related to the same outcomes in the FBH sample. In general, frequency of positive contact is expectedly higher in the FBH sample, and it is reasonable to assume that the individuals who are less biased are more willing to communicate with the outgroup members. Additionally, the items were framed so that it is more likely for individuals from ethnically diverse areas to agree with them. On the contrary, participants from Serbia reported lower contact frequency.

Plausibility and manipulation checks

To test whether the interventions differed regarding their assessed plausibility, we conducted one-way ANOVA with intervention type as a between-subject factor and plausibility assessment as an outcome. The overall model was insignificant in both experiments, and we found no differences between the interventions (Table 31). Additionally, plausibility of both interventions was significantly higher than 4 in the Serbian sample. As we discussed in the previous chapter, this value represented the answer *more plausible than implausible*, meaning that it would serve as a cut-off score plausibility assessment was an exclusion criterion. On the other hand, in the Bosniak sample, it was not significantly different from 4. Overall, the two interventions were assessed as equally plausible, and their plausibility was satisfactory.

Table 31

Results of plausibility check, experiments 3.1 and 3.2

		Mean	**ANOVA model**	**IG norm – OG experience contrast**	
		t(df)	F (df1, df2)	t (df)	*d* [95% CI]
Experiment 4 (Serbia)	Ingroup norm	M = 4.53 t(151) = 7.33***	2.935 (2, 437)	-1.133 (437)	-.13 [-.36, .10]
	Outgroup experience	M = 4.64 t(147) = 8.22***			
Experiment 5 (FBH)	Ingroup norm	M = 4.11 t(115) = 0.93	0.567 (2, 345)	0.028 (390)	.00 [-.25, .26]
	Outgroup experience	M = 4.11 t(115) = 1.05			

Note. ***p < .001. Asterisks for t-statistics indicate that the means significantly differ from 4.

We then proceeded to test whether the interventions induced dual identity perception to our participants. Again, we used one-way between-subjects ANOVA with intervention type as a factor and dual identity perception as an outcome. Unlike the plausibility check, where we looked at differences between the interventions, here we focused on differences between each experimental condition and the control one.

As indicated in Table 5, both interventions successfully induced dual identity perception in the Serbian sample. On the other hand, in the Bosniak sample only Outgroup experience intervention was effective in this regard.

Table 32

Results of manipulation check, experiments 4 and 5

	ANOVA model	IG norm vs. control		OG experience vs. control	
	F (df1, df2)	t (df)	*d* [95% CI]	t (df)	*d* [95% CI]
Experiment 4 (Serbia)	17.528 (2, 437)***	4.30 (437)***	.48 [.25, .72]	5.71 (437)***	.69 [.45, .92]
Experiment 5 (FBH)	3.760 (2, 345)*	0.95 (345)	.12 [-.14, .38]	2.70 (345)**	.36 [.10, .62]

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

Effects of the two intervention types on intergroup bias

We tested H7 using separate ANOVAs for each outcome. Again, we contrasted experimental conditions to the control one. Statistics for overall models are detailed in Table 33. As indicated, we found no evidence of between-group differences on any outcome in either of the samples, with the exception of ingroup-outgroup overlap in the Serbian sample. However, given that multiple statistical tests can lead to *p*-value inflation, we adjusted significance level using Bonferroni correction. After applying the correction (adjusted $\alpha = .01$) the effect was no longer significant. As we found no difference between the conditions (see APPENDIX L for the planned contrasts results), we found no support for H7.

Table 33

Testing the between-conditions differences in outcome variables

	Experiment 4 (Serbia)	Experiment 5 (FBH)
	F (df1, df2)	F (df1, df2)
GG as a bridge	1.215 (2, 437)	1.099 (2, 345)
Ingroup-outgroup overlap	3.318 (2, 437)*	1.141 (2, 345)
Social closeness	0.171 (2, 437)	1.243 (2, 345)
Outgroup feelings	.015 (2, 437)	.072 (2, 345)
Reconciliation intentions	0.650 (2, 437)	0.874 (2, 345)

Note. *p < .05. Social closeness represents reversely coded social distance scale.

Additionally, we tested the same effects of interventions but controlling for age, gender, religiosity, education, ideological orientation, ethnic identification, perspective taking, perceived threat, and assessed plausibility. The models were significant and explained between 22% and 50% of the variance of the outcomes. Indicators of the models are detailed in Table 34. In line with the ANOVA results, we only found that outgroup experience intervention significantly increased perceived overlap between ingroup and outgroup ($\Delta F(2, 427) = 4.298$, $p = .014$), but no other outcomes.

In the Serbian sample, perspective taking and threat perception were found to consistently predict outcomes in that those higher in perspective taking and lower in threat perception perceived

the outgroup more positively. Assessed plausibility of the interventions positively predicted perception of the gateway as a bridge, perceived overlap between ingroup and outgroup, and reconciliation intentions, but not social closeness and outgroup feelings. Other predictors were not that consistent across the outcomes. In the FBH sample, we also observed consistent effects of perspective taking and threat perception, but also those of plausibility and ideological orientation (the more left-oriented, the more positive perception). The detailed results of regression analyses can be found in APPENDIX M.

Table 34

The effects of interventions on measures of intergroup bias, controlling for demographic variables and individual differences

	Experiment 4		**Experiment 5**	
	Covariates	Covariates + intervention	Covariates	Covariates + intervention
GG as a bridge	$F(10,429) = 14.58$, $R^2_{adj} = .24$***	$\Delta F(2,427) = 1.99$, $\Delta R^2 = .01$	$F(10,337) = 11.36$, $R^2_{adj} = .23$***	$\Delta F(2,335) = 2.33$, $\Delta R^2 = .01$
Ingroup-outgroup overlap	$F(10,429) = 12.45$, $R^2_{adj} = .21$***	$\Delta F(2,427) = 4.30$, $\Delta R^2 = .02$*	$F(10,337) = 12.01$, $R^2_{adj} = .24$***	$\Delta F(2,335) = 1.09$, $\Delta R^2 = .01$
Social closeness	$F(10,429) = 33.86$, $R^2_{adj} = .43$***	$\Delta F(2,427) = 0.16$, $\Delta R^2 = .00$	$F(10,337) = 35.36$, $R^2_{adj} = .50$***	$\Delta F(2,335) = 0.04$, $\Delta R^2 = .00$
Outgroup feelings	$F(10,429) = 22.74$, $R^2_{adj} = .33$***	$\Delta F(2,427) = 0.52$, $\Delta R^2 = .00$	$F(10,337) = 23.57$, $R^2_{adj} = .39$***	$\Delta F(2,335) = 2.05$, $\Delta R^2 = .01$
Reconciliation intentions	$F(10,429) = 30.46$, $R^2_{adj} = .40$***	$\Delta F(2,427) = 0.62$, $\Delta R^2 = .00$	$F(10,337) = 36.08$, $R^2_{adj} = .50$***	$\Delta F(2,335) = 1.16$, $\Delta R^2 = .00$

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

Does plausibility moderate interventions' effects?

Although we did not find evidence that our interventions affect intergroup bias, we did find significant relationships between plausibility assessment and measures of bias. In Study 2, we also found that the Outgroup experience intervention was more sensitive to plausibility than the ingroup norm one when it comes to the induction of dual identity perception. Therefore, we tested whether the effects of interventions were moderated by plausibility assessment.

To avoid p-value correction, we combined three measures of outgroup attitude – social closeness, outgroup feelings, and reconciliation intentions – into a single variable using Principal component analysis. The three variables had almost equal loadings on the principal component in both experiments (.55 - .59), indicating that they were equally relevant for building the new score – general outgroup attitude.

We analyzed the effects using hierarchical multiple linear regressions. In the first step, we entered all covariates used in the previous analysis (demographics, religiosity, individual differences, and plausibility). We added the experimental condition in the second step, and finally, in the third step, we added experimental condition x plausibility interaction.

The pattern of the results was almost the same across the experiments (Table 35[30]). Individual differences and plausibility accounted for more than 50% of the variance of outgroup attitude, with perspective taking and threat perception as the most significant predictors. Adding the intervention type in the second step did not improve the model. Finally, the interaction between intervention type and plausibility improved the model slightly, but significantly.

Table 35

Predictors of outgroup attitude in Study 3

	Experiment 4			**Experiment 5**		
	Step 1	**Step 2**	**Step 3**	**Step 1**	**Step 2**	**Step 3**
	β	**β**	**β**	**β**	**β**	**β**
Gender (1 = female)	-.04	-.04	-.05	.07*	.08*	.08*
Age	-.01	.01	-.01	-.08	-.08	-.08
Religiosity	-.02	-.02	-.02	-.05	-.06	-.07
Education	.05	.05	.04	-.06	-.06	-.06
Ideological orientation	-.09*	-.09*	-.11*	-.13***	-.12***	-.12**
Ethnic identification	-.01	-.01	.01	-.03	-.03	-.02
Perspective taking	.18***	.18***	.17***	.30***	.30***	.30***
Threat perception	-.54***	-.54***	-.52***	-.27***	-.27***	-.27***
Outgroup contact	.08*	.08*	.08*	.25***	.25***	.25***
Plausibility	.10**	.10**	-.04	.23***	.23***	.10**
Intervention type (IG norm vs. control)		-.01	.00		-.06	-.06
Intervention type (OG experience vs. control)		-.00	-.01		-.02	-.02
Plausibility * Intervention type (IG norm vs. control)			.07			-.01
Plausibility * Intervention type (OG experience vs. control)			.18***			.09†
R^2 **[95% CI]**	.536*** [.46, .58]	.536*** [.46, .58]	.550*** [.48, .59]	.649*** [.58, .69]	.652*** [.58, .69]	.657*** [.59, .69]
R^2_{adj}	.525	.523	.535	.639	.639	.643
ΔR^2 **[95% CI]**		.000 [-.00, .00]	.013** [.00, .03]		.003 [-.00, .01]	.006† [-.00, .02]

Note. ***p < .001, **p < .01, *p < .05, †p < .08

Figure 11 shows the patterns of the effects of each intervention type on attitude, split by the value of plausibility assessment. In both experiments, we observed that outgroup experience intervention was sensitive to plausibility. The more plausible an individual assesses its content, the more likely will the intervention affect their outgroup attitude. This pattern seemed somewhat more pronounced in the FBH sample (Fig. 2, Panel B); however, we cannot directly compare the samples.

[30] For the sake of clarity, we report only standardized regression coefficients and coefficients of determination here. The detailed results of regression analysis with outgroup attitude as an outcome are reported in Appendix N.

Additionally, the pattern of estimated marginal means in the Ingroup norm condition in experiment 5 (FBH sample) indicates that, in the context of Federation of Bosnia and Herzegovina, even the content framed from the ingroup perspective was somewhat sensitive to plausibility (see the difference between the low and high plausibility scores on the plot).

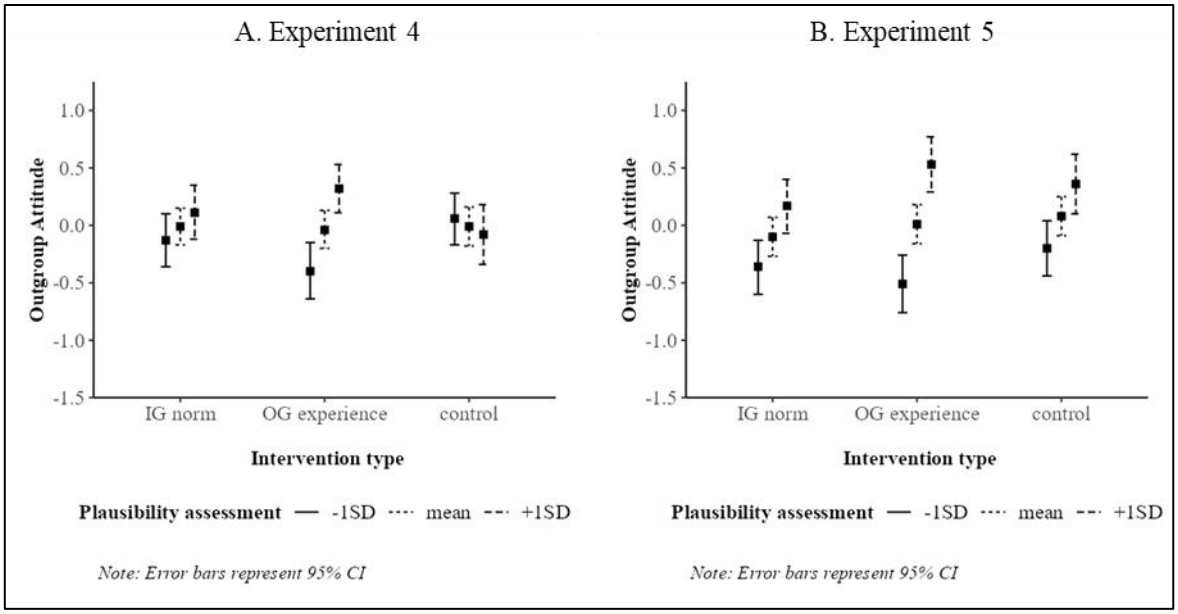


Figure 11. *Intervention type * plausibility interaction on outgroup attitude*

Study 3 Discussion

In this last set of experiments, we (a) tested the effects of two dual-identity interventions on intergroup bias, and (b) explored whether the effects of interventions are sensitive to assessed plausibility of their content. We tested our hypotheses in the context of relations between Serbs and Bosniaks, first in Serbia (where ethnic Serbs are a majority), and then in the Federation of Bosnia and Herzegovina (where ethnic Bosniaks are a majority). As we described in Chapter 3, this is a post-conflict context but with the differences in the involvement of the groups in the past conflict. Namely, the war between Serbs and Bosniaks took place in Bosnia and Herzegovina, while the Republic of Serbia supported the Serbian side politically and via paramilitary support, it did not officially participate in the war. Thus, the consequences of the war are today more pronounced in Bosnia and Herzegovina (and FBH as its entity) than in Serbia. Thirty years later, the two groups are officially not in conflict, but tensions exist on both sides, with politicians constantly boosting the feelings of threat between them. That being said, we tested our hypotheses in both contexts, as the political climate regarding intergroup relations is similar in both countries, but the direct consequences of war are not.

Despite the evidence that dual-identity intervention can reduce intergroup bias in conflict and post-conflict contexts (Levy, Saguy, Van Zomeren, et al., 2017; Levy, Žeželj, et al., 2019; Ninković & Žeželj, 2022), we did not observe any direct effect of the interventions, regardless of their framing. Drawing from previous evidence, we expected to replicate the effects of the Outgroup experience intervention, and to test whether the Ingroup norm intervention has the same potential to reduce the bias. However, although both interventions successfully induced perception of the gateway group's dual identity, neither of them affected bias. The effects of interventions were absent even when we controlled for demographic variables, religiosity, ideological orientation, ethnic identification, perspective taking, intergroup threat perception, and plausibility of the interventions. It turned out that perspective taking and outgroup threat perception were the most important determinants of intergroup bias and that these two variables explained around 50% of the variations of bias.

The role of plausibility assessment

In the previous set of experiments (1-3), we showed that the assessment of dual-identity interventions' plausibility was related to perception of intergroup threat. The individuals who feel more threatened by the outgroup are less likely to assess the content about partial outgroup members as plausible, indicating that those with negative outgroup perception are likely to a priori reject the intervention content. Furthermore, we found that the two intervention types were not equally sensitive to plausibility. In fact, when we tested whether plausibility moderates the difference between the interventions in their potential to induce dual identity perception (Experiments 1-3), we observed that the Outgroup experience intervention was more sensitive to plausibility than the Ingroup norm intervention. More precisely, it was effective only for the individuals who assessed it as highly plausible. This indicated that the effectiveness of differently framed interventions to affect the focal construct (the one it is hypothesized to affect) is not equally dependent on their plausibility. Therefore, in this final set of experiments, we expected to obtain the same pattern of effects on outgroup attitude, given that the gateway hypothesis predicts that dual identity perception should reflect on attitude.

Then, in this final set of experiments (Experiments 4-5), we observed the similar expected pattern, but using outgroup attitude (i.e., an indicator of intergroup bias) as an outcome. Plausibility was positively related to all outcomes that reflect aspects of attitude – social closeness (distance), outgroup feelings, and reconciliation intentions. More importantly, we obtained the same pattern of interaction between intervention type and plausibility assessment. When exposed to the intervention that is framed from the outgroup perspective (Outgroup experience intervention), individuals need to assess its content as plausible so that we can expect any change in attitude. Evidence from Experiment 5 even showed that outgroup attitude scores were low for the individuals who were exposed to the Outgroup experience intervention and who found it implausible. In other words, the intervention framed from the outgroup perspective can backfire if it is assessed as implausible.

On the other hand, the intervention framed from the ingroup perspective (Ingroup norm intervention) is more robust when it comes to plausibility assessment. The way it affects (or, in this case, does not affect) attitude is almost equal across the levels of plausibility assessment in the context of Serbia, where threat and war wounds are not that pronounced. In the context of FBH, we found that the Ingroup norm intervention is slightly sensitive to plausibility, but the effect was weaker than for the Outgroup experience intervention. Taken together, our results indicate that plausibility assessment is an important precursor for dual-identity interventions to reduce intergroup bias. We will summarize and discuss all obtained results in the next chapter.

6. General discussion

In this thesis, we started with systematically reviewing the procedures used to validate interventions for reducing intergroup bias which draw from the social identity framework. We especially focused on how widespread is the practice of using plausibility and manipulation checks, and, if used, how they are operationalized and whether they serve as criteria for participant exclusion.

The systematic review revealed that manipulation checks are becoming increasingly prevalent in the studies of social-identity interventions. On the other hand, plausibility checks are still relatively rare. Given that a) plausibility checks are sometimes used as exclusion criteria (participants who assess an intervention content as implausible are excluded from the analyses), and b) these checks can be subject to motivated reasoning (i.e., participants' traits, beliefs and attitudes can shape the way they assess the plausibility of intervention content), we ran a series of experiments to explore the relationships between plausibility, manipulation checks, participants' beliefs, and interventions' success in intergroup bias reduction.

Across four experiments (pilot + experiments 1-3), we employed the gateway group paradigm (Levy, Saguy, Van Zomeren, et al., 2017) to compare two dual-identity interventions in terms of their plausibility and effectiveness in manipulating the focal construct (dual identity perception, serving as a manipulation check). The experiments were focused on relations between Serbs and Bosniaks in three contexts - Serbia, Federation of Bosnia and Herzegovina (FBH), and Republika Srpska (RS). Both interventions we tested portrayed members of an ethnic minority as strongly identified with their ethnic group, but also with the country they live in, thus making them a gateway group (GG). The interventions differed only in the perspective from which the story is told. In the outgroup perspective (outgroup experience intervention), the story focused on the ostensible report where *minority group* members expressed their feelings about their own ethno-national identity and declared themselves as strongly identified with both ethnic and national group. For example, in the context of Serbia, members of the Bosniak minority were portrayed as strongly identified with both Bosniak ethnic group and the country of Serbia. On the other hand, the story from the ingroup perspective (ingroup norm intervention) reported that members of the *majority group* perceive the minority members as strongly identified with the two groups. In the context of Serbia, this story reported that Serbs perceive Bosniaks from Serbia as simultaneously strongly identified with the two groups. The difference in framing allowed us to test whether the same information coming from a different source (ingroup/outgroup) sounds equally plausible, as well as whether they have the same potential to convince people that the minority group is dually identified (dual identity perception). To gain a better understanding of the role of plausibility assessment, we then tested the relation between interventions' plausibility and their potential to induce dual identity perception.

Additionally, we measured participants' ideological beliefs, strength of ingroup identification, ethnocultural perspective taking, and outgroup threat perception. This allowed us to check our assumption that the plausibility and manipulation checks can be subject to motivated reasoning, i.e., that prior individual characteristics and beliefs can be related to acceptance of the intervention content as plausible and to the way interventions affect dual identity perception. We chose this particular set of individual differences given their relevance for intergroup relations whether it is that particular individuals are more likely to be prejudiced and thus should be targeted by our interventions, or it is that particular types of interventions are more likely to be efficient in particular individuals. The well-established relation between social conservatism and prejudice suggests that more conservative (or socially right-wing oriented) individuals tend to be more biased against ethnic outgroups (Duckitt & Sibley, 2010). There is also evidence that different ideological groups require differently framed intergroup interventions, in that some interventions are more successful among conservatives than among liberals and progressives and vice versa (Nir & Halperin, 2024). As for ingroup identification, it represents one of the key individual characteristics in intergroup relations, and strongly identified individuals are the most likely to express bias towards an outgroup (Crisp & Beck, 2005). In addition, we assumed that ingroup identification would be especially important for plausibility of the ingroup

norm intervention, since the adherence to ingroup norms is a function of identification strength (Livingstone et al., 2011). Ethnocultural perspective taking was chosen given its role in intergroup attitudes. For example, a recent study demonstrated that intergroup interventions that focus on outgroup experiences and require outgroup empathy can backfire among the individuals who score low on perspective taking (Szekeres et al., 2024). Thus, we expected that perspective taking would have a significant role in plausibility of the outgroup experience interventions. Finally, we included outgroup threat perception since it can serve as a proxy for prejudice (Stephan et al., 2015). Perceiving outgroup as threatening also decreases outgroup trust, therefore we assumed that the individuals who scored high in threat perception would perceive the outgroup experience intervention as less plausible.

In the last set of experiments (4-5) we tested whether the two dual-identity interventions can reduce intergroup bias, again focusing on the relations between Serbs and Bosniaks in Serbia and FBH. We applied the same two interventions, measured the same set of individual differences as in the previous set of experiments, and used the same items as plausibility and manipulation checks. This time we added a set of outcomes that relate to either perception of the minority group (perception of the gateway group as a bridge between the groups; perceived ingroup-outgroup overlap), or to attitudes and behavioral intentions towards the outgroup (outgroup feelings, social distance, and reconciliation intentions). Our main goals were to 1) compare the two interventions in terms of their impact on outgroup perception and outgroup bias, and 2) test whether plausibility moderates the effects of interventions.

Hypotheses and main findings of all five experiments (except pilot, which was exploratory) are summarized in Table 36.

Table 36

Summary of the main findings across five experiments

Hypothesis	**Experiment 1 (Serbia)**	**Experiment 2 (FBH)**	**Experiment 3 (RS)**
H1. Two interventions will be assessed as equally plausible.	×	✓	×
H2. Two interventions will equally impact the perception of the gateway group's dual identity.	✓	✓	✓
H3a. Perception of the gateway group's dual identity will be higher in the Ingroup norm condition than in the control condition.	✓	×	×
H3b. Perception of the gateway group's dual identity will be higher in the Outgroup experience condition than in the control condition.	✓	×	✓
H4a. Ideological orientation will be correlated to plausibility assessment in that more right-leaning individuals will assess the interventions' content as less plausible.	✓×	×	✓×
H4b. Ingroup identification will be positively correlated to the assessed plausibility of the ingroup norm intervention.	✓	×	×
H4c. Ethnocultural perspective taking will be positively correlated to the assessed plausibility of the outgroup experience intervention.	✓	✓	✓

H4d. Perceived outgroup threat will be negatively correlated to the assessed plausibility of outgroup experience intervention.	✓	✓	✓
H5a. Ideological orientation will be negatively correlated to dual identity perception after both interventions.	✓	✓×	✓
H5b. Ingroup identification will be positively correlated to dual identity perception after exposure to the ingroup norm intervention.	×	×	×
H5c. Ethnocultural perspective taking will be positively correlated to dual identity perception after exposure to the outgroup experience intervention.	✓	✓	✓
H5d. Perceived outgroup threat will be negatively correlated to dual identity perception after exposure to the outgroup experience intervention.	✓	✓	✓
H6. The plausibility of each intervention will correlate positively with dual identity perception after exposure to that intervention.	✓	✓	✓

	Experiment 4 (Serbia)	**Experiment 5 (FBH)**
H7a. Participants in both experimental conditions will have higher scores on the perception of the gateway group as a bridge compared to the participants in the control condition.	✓	×
H7b. Participants in both experimental conditions will have higher scores on perceived ingroup-outgroup overlap than those in the control condition.	✓×	×
H7c. Participants in both experimental conditions will have higher scores on social closeness to the outgroup than those in the control condition.	×	×
H7d. Participants in both experimental conditions will have higher scores on feelings towards the outgroup than those in the control condition.	×	×
H7e. Participants in both experimental conditions will have higher scores on Reconciliation intentions than those in the control condition.	×	×
H8. Plausibility assessment will moderate the intervention effects on outgroup attitude in that the relation between plausibility and attitude will be stronger in the Outgroup experience condition than in the Ingroup norm condition.	✓	✓

Note. ✓ indicates that we found support for a hypothesis, while × indicates that we did not. ✓× indicates that a hypothesis was partially supported.

Summary of the main findings

Systematic review: Use of validity checks in social identity research

A systematic review of the validity checks revealed that most studies of social-identity interventions for intergroup bias reduction employed some form of manipulation checks. In other words, before concluding the interventions' effects on intergroup bias, researchers usually tested whether it affected the focal construct - the one that it is intended to manipulate. Sixty-two percent of analyzed experiments employed manipulation checks. In comparison, a recent review of socio-psychological interventions revealed that only around one-third of experiments employed this kind of validity check (Chester & Lasko, 2021). This indicates that social-identity scholars are more than averagely aware of the importance of testing whether the interventions affect the focal construct in the expected way. Given that the main purpose of manipulation checks is to test if the intervention affects the focal construct - the one that it is intended to manipulate - the relatively high frequency of their use indicates that a large proportion of social-identity interventions indeed affect focal constructs[31], at least in the societal contexts they were applied to. More precisely, confirming that we manipulated exactly what we intended to, strengthens the conclusions about the processes that social-identity interventions trigger, and their role in intergroup bias reduction.

On the other hand, our analysis revealed that plausibility checks are hardly ever used. For this review, we chose only the experiments that employed interventions that are sensitive to plausibility - i.e., the type of experiments in which accepting that the intervention content is true is a prerequisite for the intervention to be effective. This means that each of the 60 reviewed experiments could (and, we argue, should) have employed a number of items that would allow the researchers to assess whether the participants really believed the intervention content and to what extent. Instead, only six reported experiments employed this kind of check, indicating that the researchers rarely knew whether the content of their interventions was plausible to participants. Among those that applied plausibility checks, in a number of experiments such checks were used as an exclusion criterion in that the participants who assessed plausibility of intervention content as relatively low were excluded from the data analyses.

Although relatively rare, the practice of using plausibility checks to exclude participants can obscure the potential boundary conditions for the effects of interventions on intergroup bias. We assumed that plausibility (or non-plausibility) is not a universal characteristic of the intervention, but rather a consequence of the interaction between the intervention content and participants' traits and beliefs, i.e. that it can be plausible for some, but non plausible for other participants. In other words, we assumed that plausibility assessment is subject to motivated reasoning: participants who are strongly biased towards the outgroup can reject the intervention content as implausible because it does not fit their belief system. If this is the case, then the success of an intervention is limited to the individuals whose outgroup attitude is already neutral or positive, meaning that the observed effects of an intervention cannot be generalized.

Among all the studies included in our systematic review, plausibility checks were reported as an exclusion criterion only in two reviewed experiments. In four additional experiments, comprehension checks were used as an exclusion criterion. Given that the studies in this thesis were motivated by the examples of using these kinds of checks as exclusion criteria without taking into

[31] This statement can be problematized given that a) we only know that the interventions affect the focal construct, but not whether they are more potent to affect other constructs, and b) researchers typically use relative changes in the focal construct (i.e., comparison to the control group) to conclude about manipulation effectiveness. However, manipulation checks are rarely the focal topc of empirical research and are usually considered and discussed in systematic reviews and meta-analyses (see e.g., Chester & Lasko, 2021). Thus, we decided to focus on the way they are most often used: to test for a relative difference in focal construct between the intervention and control condition. For a discussion on the research practices and necessity of manipulation checks use, see Ejelöv & Luke (2020), Gruijters (2022), and Hauser et al. (2018).

account that they can be subject to motivated reasoning, this result is more than satisfactory. In the first chapter, we discussed the experiment by Storz and colleagues (2022), where they used a comprehension check as an exclusion criterion and excluded around 75% of the participants from one experimental condition and 31% from another. We argued that this was due to motivated reasoning, given that the intervention in the former condition was difficult to believe, especially for individuals who are highly prejudiced. Therefore, although we found that plausibility (and comprehension) checks were rarely used as exclusion criteria in testing social-identity interventions for intergroup bias reduction, it was still important to explore how plausible do participants find intervention content, and what is the relation between plausibility and interventions' outcomes. We thus conducted a series of experiments to disentangle the relations between plausibility assessment and intervention effectiveness and outcomes.

Experiments 1-3: Plausibility of the two dual-identity interventions and its role in the interventions' effectiveness

Using two dual-identity interventions within the gateway-group paradigm, we tested a) whether two interventions differ in their plausibility and potential to elicit dual identity perception, b) whether the plausibility of intervention is related to a set of individual differences (ideological beliefs, ethnic identification, ethnocultural perspective taking, and perceived outgroup threat), i.e., whether is it subject to motivated reasoning, c) how plausibility assessment is related to the variations in focal construct (dual identity perception).

Experiments 1-3 revealed that the interventions differ in their plausibility regarding societal context. In Serbia (Experiment 1), outgroup experience intervention was assessed as more plausible compared to the ingroup norm intervention. The pattern was reversed in Republika Srpska (Experiment 3) - ingroup norm intervention was more plausible. In the Federation of Bosnia and Herzegovina (Experiment 2), the interventions were assessed as equally plausible. This did not completely reflect on dual identity perception - the two intervention types had an equal potential to induce dual identity perception in all three experiments. However, the absolute value of dual identity perception varied across societal contexts. In Serbia, both interventions were successful in inducing dual identity perception of the outgroup: it differed both from the control group from the midpoint of 50. On the contrary, we found no difference between the experimental and control conditions in FBH; additionally, mean scores of dual identity perception did not differ from the midpoint of 50. Finally, in Republika Srpska, we observed relatively low scores of dual identity perception after exposure to the interventions (lower than 40 on the 100-point scale). However, given that the score in the control condition was even lower (M = 29.76), exposure to the outgroup experience intervention induced relatively higher dual identity perception (M = 38.85).

We argue that these differences in the pattern of interventions' effects came from the differences in societal context (see also *Study 2 discussion* in Chapter 3). In Serbia, Serbs are an ethnic majority, with over 80% of citizens self-declaring as Serbs; at the same time, around 2% of Serbian citizens self-declare as Bosniaks (Statistical Office of the Republic of Serbia, 2023). There, Bosniaks are constitutionally granted cultural and educational autonomy (Constitution of the Republic of Serbia, Articles 75-81). The country is not divided across the ethnic borders, however, there is a particular region where Bosniaks make a majority or a significant minority (Statistical Office of the Republic of Serbia, 2023). The significant role of Serbia in Bosnian war made it an important part of a narrative of Serbs as a historical victim (Obradović, 2016), making a fertile ground for perpetuation of prejudice and discrimination against Bosniaks in Serbia. The cases of blatant discrimination are present even almost 30 years after the war, with the recent example of the students who were rejected from internship in a kindergarten because they were wearing a hijab (Sandžak Press, 2024). However, despite the role in Bosnian war and the examples of subtle and overt discrimination, the official discourse in Serbia portrays Bosniaks as its equal citizens. Some of the prominent public figures who represent Serbia are ethnic Bosniaks who actively signal their dual loyalties - to the ethnic group and to the country they represent, such as Asmir Kolašinac. Furthermore, since 2000, Bosniaks have been

continuously represented as high officials in the Serbian government, with the current government having two ethnic Bosniaks as ministers (www.srbija.gov.rs). This signals acceptance of Serbia as a homeland of all Bosniaks who live there. Therefore, it is more likely for our participants from Serbia to accept both interventions' content as true than it is for our participants from Bosnia and Herzegovina.

Bosnia and Herzegovina is a typical representative of a deeply divided society. The country is divided in two entities - Federation of Bosnia and Herzegovina (FBH) and Republika Srpska (RS) - across ethnic borders. Bosniaks, who are a majority in FBH entity and a minority in RS, are tied to Bosnia and Herzegovina as their country and are *Bosnians*. Conversely, ethnic Serbs, especially in Republika Srpska, are more tied to Serbia as their motherland and are typically weakly attached to Bosnia and Herzegovina. However, studies show that ethnic Serbs who live in FBH are somewhat stronger attached to Bosnia and Herzegovina compared to those living in RS (Turjačanin, 2017). This might be why both interventions' content was assessed as relatively plausible in FBH context (Experiment 2; Bosniak majority, Serbian minority). However, despite the fact the interventions were not implausible, they were not effective in increasing the perception of dual identity (in comparison to the control group). The observed pattern of results indicates that dual identity perception was already moderate (M = 43 out of 100 in the control condition), which might be why our participants assessed the interventions as plausible. If this is the case, then the absence of differences between experimental and control conditions in dual identity perception can be attributed to a relatively low novelty of information described in the interventions.

Finally, in Republika Srpska (Experiment 3), only ingroup norm intervention was assessed as plausible. Given the specific societal context of RS - an entity defined through the ethnicity of the majority group (Serbs) - this was not unexpected. Portraying Bosniaks as proud citizens of Republika Srpska - as in outgroup experience intervention - is quite contradictory, especially considering the fact that, at the time of the study, the RS authorities were actively downplaying the atrocities committed against Bosniaks (Memorial center Srebrenica, 2022). On the other hand, informing the participants that other ingroup members think that Bosniaks are proud citizens of RS made more sense to our participants, i.e., they assessed it as more plausible. This perception of climate in RS as not that hostile towards Bosniaks could be interpreted as an ingroup image-preserving strategy or tendency to distance from the ingroup wrongdoings (Peetz et al., 2010).As for dual identity perception, it was relatively low, which was expected given the societal context. However, despite the low plausibility of outgroup experience intervention, it was the one that succeeded in the induction of dual identity perception (compared to the baseline [control] condition). This pattern might seem contradictory, but disentangling the interaction between intervention type and plausibility assessment can help to understand it better.

The importance of measuring interventions' plausibility

The observed interaction effects (see Figures 6 and 7 in Chapter 3) indicated that the plausibility of interventions may indeed be a boundary condition for their effectiveness. What we observed in Experiments 2 and 3 is that individuals who find the intervention content plausible are more likely to also perceive the gateway group as dually identified. This effect is especially pronounced when the intervention content is framed from the outgroup perspective. In other words, plausibility is a boundary condition for the effectiveness of the outgroup experience intervention - at least in the societal contexts portrayal of dually identified gateway groups may be a rare occurrence. Therefore, the observed effect of outgroup experience intervention on dual identity perception in Experiment 3 (RS sample) emerged due to the large individual differences in plausibility. The individuals who assessed this intervention as plausible (1SD above the mean) had a mean score of 54 on dual identity perception - this is slightly above the theoretical midpoint of 50 and far above the overall empirical mean in this condition (~39) . For the individuals who assessed the outgroup experience intervention as implausible, the mean score of dual identity perception was very low - around 26. We observed the same pattern in Experiment 2 (FBH sample). Finally, although we did

not observe this pattern of interaction in Experiment 1 (Serbian sample), the zero-order correlation between plausibility and dual identity perception was much higher after the exposure to outgroup experience intervention (r = .61) than after the exposure to ingroup norm intervention (r = .32). Taken together, these effects indicate that the dual identity intervention framed from the outgroup perspective was consistently effective only for the individuals who perceived its content as plausible.

We further demonstrated the importance of interventions' plausibility in Study 3, this time using outgroup attitude as an outcome. Outgroup experience intervention successfully reduced the bias (i.e., increased positive attitude) only if it was assessed as plausible. Thus, although we did not observe the main effects of our interventions on perception and attitude towards the outgroup, it turned out that the effect exists among those who accept its content. There, we can also see that this pattern was more pronounced in the Federation of Bosnia and Herzegovina - the context more charged with intergroup threat perception (see Figure 2 in Chapter 4). Importantly, in the FBH sample, we observed that the outgroup experience intervention could backfire if assessed as implausible: for participants who disbelieved its content, the outgroup attitude was lower than in the control group.

This observed interaction pattern implies that the dual-identity intervention that was argued to be beneficial for intergroup relations - the one framed from the outgroup perspective (Levy et al., 2017; 2019; Ninković & Žeželj, 2022) - has severe limitations. In fact, in two of four previous experiments where positive effects of this intervention were observed, participants who assessed its content as implausible were excluded from the data analyses (Levy et al., 2017; Ninković & Žeželj, 2022). For the other two experiments, the authors (Levy et al., 2019) did not explicitly state plausibility as an exclusion criterion but referred to the procedure by Levy and colleagues (2017) - the one where only data from participants whose plausibility scores were relatively high were used. Therefore, our results question the observed potential of dual identity intervention to reduce intergroup bias, as well as the extent of its generalizability. In other words, conclusions about the intervention's effectiveness were drawn from the subsample of individuals who believed that the intervention content was true. How the intervention affected the participants who did not believe its content remains unknown from previous research. Our results, however, indicate the possibility of a backfire effect within the excluded group of participants, whilst at the same time overall results suggest the positive effect of the intervention on the outcomes.

Knowing the relation between plausibility and effectiveness or success of the outgroup experience intervention, it is informative to look deeply into the correlates of plausibility. Across all studies, the plausibility of outgroup experience intervention was positively related to perspective taking and negatively to outgroup threat perception. This confirms our initial assumption that the plausibility of the interventions depends not only on the intervention content but also on some individual characteristics and beliefs. More precisely, individuals who a) were more inclined to take the perspective of an ethnic outgroup and b) perceived the outgroup as less threatening were more likely to assess the Outgroup experience intervention as plausible. We expected to observe this pattern. In fact, understanding how members of an ethnic minority feel in a particular intergroup situation (i.e., having high scores in perspective taking; Szekeres et al., 2024) can prevent people from doubting the truthfulness of the ethnic minority members' statements about their identities. Similarly, perceiving the outgroup as non-threatening increases intergroup trust, including trust in what they say about their identities (Schmid et al., 2014). Moreover, outgroup threat perception is so consistently positively related to outgroup prejudice that it can serve as its proxy (Rios et al., 2018). Therefore, the positive correlation between threat perception and plausibility indicates that more prejudiced individuals are more likely to assess the outgroup experience intervention as implausible. In other words, those who would profit the most from the intervention - people who are prejudiced towards the outgroup - are likely to reject its content. As a consequence, the intervention would not reduce their prejudice. Not only that, but it might also backfire and increase the bias, especially if the context is threatening.

On the other hand, the ingroup norm intervention was not that sensitive to plausibility. It was effective for the induction of dual identity perception in contexts that are less charged with the intergroup threat (experiments 1 and 4, conducted in Serbia), however, it did not have any effect on intergroup bias. Additionally, we observed its sensitivity to ideology and ethnic identification, again in the less threatening context of Serbia. As we expected, this intervention was effective for the individuals who are strongly identified with their ethnic ingroup, which is in line with the findings that strong ingroup identifiers are more willing to behave in accordance with the ingroup norm (Livingstone et al., 2011). However, this intervention was consistently either equally or less plausible than the one framed from the outgroup perspective.

In sum, our results suggest that, among the two tested interventions, the one framed from the outgroup perspective might have a greater potential to reduce intergroup bias in post-conflict settings. However, it has several limitations that must be considered when testing or applying it: this intervention is sensitive to plausibility in that it does not reduce the bias if assessed as implausible. In the contexts charged with intergroup threat, it can even backfire. Knowing the predictors of plausibility, it seems that this intervention is unsuitable for the individuals who perceive the outgroup as highly threatening and, therefore, for those who are relatively highly prejudiced. Considering the observed predictors of plausibility, this intervention seems to be the most appropriate to apply among the individuals who are not much afraid of the outgroup members and are open to understanding their perspective.

Potential reasons for different effectiveness of two interventions

The two dual-identity interventions we compared had the same content but framed from two different perspectives. The intervention framed from the outgroup perspective has been previously shown to reduce intergroup bias in (post-) conflict contexts of Israel (Levy et al., 2017), former Yugoslavia (Levy et al., 2019; Ninković & Žeželj, 2022), as well as in the contexts of power conflict (Levy et al., 2019; Levy et al., 2023). On the other hand, to our best knowledge the same intervention framed from the ingroup perspective has not been empirically studied. We introduced the ingroup perspective given the role of ingroup norms in shaping intergroup behavior (Đorđević, 2020; Jetten et al., 1996). We assumed that framing the story about the gateway group from the ingroup perspective might be effective for some groups of participants, e.g., those strongly identified with their ingroup (see Chapter 3 of this thesis). In our experiments, the well-studied outgroup experience intervention showed the potential to reduce the outgroup bias if assessed as plausible enough. On the other hand, the ingroup norm intervention had some effects on dual identity perception, but not on outgroup bias. We will now discuss the reasons for this difference in effects, first focusing on the outgroup experience intervention, and then to the ingroup norm one.

The patterns we observed for the outgroup experience intervention add onto the previous research that focused on boundary conditions of dual-identity interventions (Ninković & Žeželj, 2022). In that study, we broadened the knowledge about these interventions by showing that it is not enough to portray the gateway group as dually identified, but that their identity has to be described as integrated. Therefore, in the current research, we looked more deeply into the other boundary conditions for these interventions, this time focusing on their plausibility and on the individual characteristics that shape it. We showed that the plausibility assessment of the outgroup experience intervention is related to individual differences in ethnocultural perspective taking and outgroup threat perception. It was more plausible to the individuals who were more willing to take outgroup members' perspective, and to those who perceived the outgroup as less threatening. The assessed plausibility further shaped the success of this intervention in that the intervention successfully reduced intergroup bias but only if it was perceived as plausible enough. Although we did not test the moderated mediation model due to the issues of statistical power (see *Limitations of the current research* section of this chapter), we can assume that the participants who were more suspicious of the outgroup (i.e., those who perceived the outgroup as highly threatening) doubted the honesty of the outgroup's statement about strong dual identification.

This interpretation is in line with the empirical studies that have shown that majority group members often question the loyalty of dually identified minority members. For example, signaling that an immigrant holds dual citizenship (both country of origin and host country) makes the majority group members perceive him or her as less loyal to the host nation compared to the immigrants who hold only the host country citizenship (Jasinskaja-Lahti et al., 2020). In turn, this leads to distrust and lower acceptance of dually identified immigrants in strategic positions. Similarly, Kunst and colleagues (2019) demonstrated that the loyalty of immigrants with dual identities (e.g., an Arab immigrant in the USA describing himself as Arab and American) is more often questioned than that of a similar person who does not mention their Arab identity. This effect was magnified when the intergroup threat was made salient. Furthermore, some studies even suggest that the loyalty of dually identified individuals is typically questioned not only by the first-party perceivers (those identified with one of the groups contained in the dual identity) but also by the third-party perceivers, i.e., those who do not belong to any of the two groups (Fine et al., 2023).

The tendency to doubt the loyalty of dually identified minority members might have been reflected in the reception of our outgroup experience intervention as well. Participants in our experiments tended to disbelieve minority group members' dual identity if they felt threatened by the outgroup, and this was reflected in the intervention's effectiveness and success. Furthermore, the effects of plausibility were stronger in the contexts that were more charged with threat (experiments 2, 3, and 5), which is in line with the findings of Kunst and colleagues (2019).

The other intervention we tested - ingroup norm intervention -was designed to overcome the problem of gateway group's divided loyalties. We assumed that, while the outgroup perspective could be sensitive to threat, in terms of lower plausibility for the individuals who perceive the outgroup as threatening, portraying the gateway group's identity from the ingroup's perspective should be resistant to perceived threat. This was the case only in the context of Serbia (Experiment 1), but not Bosnia and Herzegovina (Experiments 2 & 3). Unlike the Outgroup experience, this intervention was, as expected, sensitive to ingroup identification, but again only in Serbian context: individuals who strongly identified with their ethnic ingroup perceived this intervention's content as most plausible.

We observed similar between-country differences for the effects of ingroup norm intervention on dual identity perception. In the context relatively less charged with intergroup threat (Serbian context, experiments 1 and 4), the perception of GG's dual identity was significantly higher than the baseline (control group) after the intervention. However, the effect of plausibility was much weaker compared to the outgroup experience intervention. In fact, although we observed zero-order correlations between the plausibility of ingroup norm intervention and dual identity perception in all experiments (except for the pilot), the marginal effects of plausibility remained insignificant in the regression model, i.e., when controlling for individual differences in perspective taking, outgroup threat perception, ingroup identification, and ideology. In other words, participants in a lower-threat context conformed to the newly learned norm - that their ingroup perceives the gateway group as dually identified. In a higher-threat context, however, we did not observe such an effect.

A potential explanation for the relatively lower effectiveness and success of the ingroup norm intervention might lie in the process of learning and acquiring social norms. A recently proposed three-stage model of social norms learning (Zhang et al., 2023) suggests that gathering social information is a necessary but not sufficient process of norm acquisition. In fact, it is part of what Zhang and colleagues (2023) call the *pre-learning* stage of norm acquisition. It serves to detect the potential norms and situations where they take place, but behavioral change comes in the later stages. After gathering enough information, an individual proceeds to the second stage of *reinforcement learning*, where they learn how to apply the pre-learned normative behaviors. During this stage, an individual practices behaving in accordance with the pre-learned information and receives societal feedback, that, in turn, helps behavior fine tuning. Only after consolidating the behaviors and cues learned in the second stage, the third stage of *internalization* integrates newly learned norms into an individual's norm system (Zhang et al., 2023). Applying this model to learning the norm of the

gateway group's dual identity would suggest that our intervention represented the pre-learning stage, where participants gathered the new information. Due to the light-touch nature of our intervention, they did not have any chance to try and incorporate the newly learned information in their behavior, i.e., to go through stage 2 of norm acquisition. Therefore, there was little chance to internalize the norm and apply it to their perception of the gateway group, and further to outgroup attitude.

Additionally, the information learned might have been different from what the participants had observed in their social environment. The results of the qualitative analysis of our pilot experiment indicated that this was one of the most frequent reasons why participants perceived the ingroup norm intervention as implausible. Participants reported not believing the content of the intervention because it did not coincide with their everyday experience. Unfortunately, we collected the open-ended answers regarding impressions about the intervention content only from the participants who assessed it as relatively implausible, so we cannot know whether those whose plausibility assessments were higher had a similar view of the intervention content.

To sum up, our five experiments add to the existing knowledge about the potential of dually identified minorities to act as a gateway between the two conflicted groups. We demonstrated significant limitations to the gateway effect. Altogether, the results suggest that the outgroup experience intervention - the one whose effectiveness has already been demonstrated (Levy et al., 2017; Levy et al., 2019; Ninković & Žeželj, 2022; Levy et al., 2023) - is effective in inducing the perception of gateway group's dual identity. It also appeared to reduce intergroup bias successfully, but only if it was assessed as plausible enough. Moreover, in social settings charged with threat, this intervention can backfire if its content is assessed as implausible. Importantly, we conducted all our experiments on the same groups with a recent history of conflict - Serbs and Bosniaks - but in the regions that differ in their role in the recent war, the way they portray the perpetrator-victim dynamics, and the way they legally define the status of a relevant ethnic minority. Our results suggest that, almost thirty years after the war, individuals' reactions to the content that portrays the outgroup in a positive light differ regarding the physical closeness of the past war. We will discuss the context specificities in more detail in the *Recommendations and implications for the future research* section.

On the other hand, portraying the perception of the gateway group as dually identified from the ingroup perspective - which, to our knowledge, has never been tested - effectively induced dual identity perception, but only in the setting less charged with the threat. In sum, outgroup experience intervention is more potent in post-conflict settings, but the outlined limitations have to be taken into account in its further testing and application.

Limitations of the current research

The focus of this thesis were social-identity interventions for intergroup bias reduction. To demonstrate some pitfalls that researchers might face when studying or applying these interventions, we used the gateway-group paradigm (Levy et al., 2017). This paradigm was chosen for a few reasons. First, we were specifically interested in the plausibility of social-identity interventions, i.e., the extent to which prior beliefs and traits can affect the adoption of information provided in the intervention. The interventions that use this paradigm are typically sensitive to plausibility, which makes them suitable for our aim. Second, its effects have already been demonstrated in (post-)conflict settings of Israel, Serbia, and Bosnia and Herzegovina, as well as in the settings characterized by power conflicts, such as ethnic majority and minorities in the USA. This paradigm also allowed us to test how different framings of the same content regarding the boundaries of social categories can affect the effectiveness and success of the intervention. However, some limitations of the experiments that we conducted have to be considered here.

A set of individual differences measures was constant across the experiments. Even though some of them had consistent null effects on plausibility, dual identity perception, or outgroup attitude, they remained a part of the design. Additionally, we did not add any new variables into the design of Experiments 4 and 5, although some of them were candidates for a better understanding of the relation

between intervention type, plausibility, and attitude - for example, outgroup trust and meta-perceptions. Trust represents the expectation that others will not exploit or harm us, and therefore trusting outgroup members can pose a risk ot an individual and their ingroup, especially in the (post-) conflict settings (Tam et al., 2009). Once damaged, as in a violent intergroup conflict, trust is difficult to restore, even decades after the conflict. Importantly, outgroup trust has a significant role in intergroup relations, in that individuals who trust outgroup are more likely to engage in positive outgroup behaviors and less likely to engage in the negative ones (Tam et al., 2009). Therefore, it would represent a good candidate for a moderator of our outgroup experience intervention's plausibility, effectiveness, and success. Another candidate would be intergroup meta-perceptions - how individuals think the outgroup perceives their ingroup (Frey & Tropp, 2006; Stojanov et al., 2022). Research has shown that meta-perceptions shape intergroup emotions (Finchilescu, 2010) and perceptions of outgroup in general (O'Brien et al., 2018).

We decided to keep the design of our five experiments as similar as possible to be able to make conclusions about the context differences between the experiments. In other words, we intentionally conducted a direct replication of experiments within one study so that we could compare their effects among the contexts. Moreover, our set of individual difference variables explained more than 50% of the variance of outgroup attitude (see experiments 4 and 5), indicating that the chosen beliefs and characteristics were of great importance for attitude shaping.

Here, one could argue that the three experiments could have been merged into a single one, with the additional factor of *context*. Although this would allow us to compare the interventions' effects across the contexts directly, it would also require much larger samples, given that we would have to test three-way interactions (context * intervention type * individual differences). Therefore, the sample sizes would have to be much larger to achieve the statistical power for testing three-way interactions (Giner-Sorolla et al., 2024; Lakens & Caldwell, 2021). Thus, we opted for separate experiments without a chance to compare them directly.

The issue of statistical power also prevented us from simultaneously testing multiple moderators. For example, we observed that plausibility was partly determined by perspective taking and threat perception but could not take them into account as moderators when we tested the intervention type * plausibility interaction. Similarly, to demonstrate the importance of plausibility and manipulation checks simultaneously, we should have tested how the process of attitude change is mediated by dual identity perception and, at the same time, moderated by plausibility - a moderated mediation. Therefore, for a better understanding of underlying processes and between-context differences, future studies should opt for powering the particular interaction and mediational effects, which would also mean having much larger samples.

We conducted the pilot study only in Serbia, and assumed its results will be relevant for the context of Bosnia and Herzegovina. Conducting the qualitative part of the pilot experiment in at least one entity in Bosnia and Herzegovina would allow us to get a better insight into the particular reasons for rejecting the two dual-identity interventions as implausible. The reasons we obtained from the Serbian sample in the pilot experiment might occur in the B&H sample as well, however, we cannot know whether there are any additional arguments for the rejection of intervention content. This would allow us to get a better and more reliable interpretation of the observed results of experiments 2 and 3, where the different patterns of between-intervention differences in plausibility and dual identity perception were observed, but the intervention * plausibility interaction was stable.

Similarly, within Study 3, we conducted only two experiments instead of three - the context of Republika Srpska was missing. This decision was made for practical reasons since the recruitment in RS for Study 2 lasted three times longer than in the other two contexts. Given the consistent intervention type * plausibility interaction effect on dual identity perception, and relatively similar descriptive indicators of individual differences in the two contexts, we decided to conduct only two experiments in Study 3. Due to the recruitment issues, we also stopped data collection in FBH

(experiment 5) before we reached the target sample size. However, post-hoc power analysis revealed that the achieved power was not drastically lower than planned.

Finally, the interventions that we chose to test might not be a representative example of social-identity interventions. Our systematic review (Study 1) revealed that, out of 60 experiments, 38 compared common ingroup identity with either separate groups (20) or dual identity (18). Most of these interventions focused on making a particular social identification salient - for example, thinking about oneself as a member of a superordinate group. In other words, participants did not have to learn about others' group membership, but to rethink their own social identification. The content used to make such identifications salient was prone to motivated reasoning, i.e., participants could have differently reacted to it depending on their intergroup attitudes. On the other hand, only four reported experiments tested the dual-identity intervention that applied the gateway-group paradigm. However, we use them as an example - and not necessarily a representative one - to demonstrate the potential pitfalls of neglecting the questions of intervention content's plausibility and its relation to initial attitudes and beliefs, as well as to attitude change. This does not mean that the recommendations that we are going to point out can be universally applied on all social-identity interventions. We believe that these recommendations can improve a portion of future research in this field.

Recommendations and implications for future research

Necessity of plausibility and manipulation checks

The most important set of findings of this research concerns the role of plausibility assessment in the effectiveness and success of intergroup interventions. We demonstrated that the effects of an intervention that has been tested in multiple (post)-conflict contexts are robust, but only if its content is assessed as plausible. At the same time, the results of Study 1 indicated that plausibility checks are rarely used, at least in the domain of social-identity interventions. Moreover, we showed that the plausibility of the intervention content - at least of dual-identity interventions within the gateway-group paradigm - is subject to motivated reasoning. Plausibility assessment was consistently related to individual characteristics: traits (perspective taking), beliefs (ideology), and perceptions of the outgroup (intergroup threat perception).

This calls for changes in testing social-identity interventions that are sensitive to plausibility, i.e., those that are built of content that can be assessed as more or less plausible. Our results suggest that plausibility checks should be a regular part of the experimental procedures. Given the observed relation between individual characteristics and plausibility assessment, "proofs" of plausibility in pilot studies do not seem to be enough for proper testing of the interventions. In other words, we demonstrated that plausibility is not a feature of the intervention content itself but a product of interaction between the intervention content and individual characteristics. Hence, pre-testing plausibility would not be enough to ensure the validity of the experimental intervention. Instead, social-identity researchers should regularly probe for plausibility right after exposing the participants to the intervention content, which could be especially useful in the cases of weak or null effects of an intervention on outcomes. As a result, plausibility assessment would allow researchers to get a better insight into the origin of such effects. For example, intervention might seem to be unsuccessful until its effects are examined on different levels of plausibility - just as it happened in our Experiments 4 and 5. Focusing on the plausibility of interventions can also contribute to their quality by allowing researchers to examine participants' reasons for (not) believing the intervention content. Such input can be used to improve the intervention content and make it more plausible in general.

Importantly, our results suggest that plausibility checks should not be used as an exclusion criterion, especially when the intervention content is framed from the outgroup perspective. First, the plausibility of such content can be strongly related to the initial outgroup attitude in that the most biased individuals would assess it as implausible. Therefore, participants with negative outgroup attitudes would be excluded from the analysis of the intervention effects. In fact, this means that we would filter out the individuals that should be the target of our intervention. Our last set of

experiments (Experiments 4 & 5) indicate that this is exactly what happens when participants who disbelieve intervention content are excluded from the analyses - at least in the context of the gateway-group paradigm. Compared to the control group, our outgroup experience intervention did improve the outgroup attitude - but only for the participants who believed its content. Looking back at the previous experiments that tested this same intervention, it seems that plausibility was used as an exclusion criterion and that all conclusions about the intervention's effectiveness were based on the subsample of participants who believed its content - and, therefore, who were probably less biased than those excluded from the sample. Moreover, the results of our Experiment 5 (conducted in Federation of Bosnia and Herzegovina) indicate that such intervention can even backfire in the contexts charged with intergroup threat. In other words, not only is the intervention ineffective for those who assess it as implausible, but it can also be harmful and increase bias in those individuals. Taken together, the results of all studies in this thesis suggest that a) plausibility checks should be regularly used when testing social-identity interventions for intergroup bias reduction, and b) plausibility scores should not be used as an exclusion criterion.

A similar is true for manipulation checks. In the first chapter, we elaborated on the suggestion from some authors that the effectiveness of an intervention to manipulate the focal construct should be tested in pilot studies, which would make manipulation checks unnecessary. However, our results suggest that effectiveness is not a characteristic of the intervention *per se*, but that it is tightly related to the participants' beliefs and traits that exist regardless of the intervention. In Study 2, we demonstrated that dual identity perception after either of the two intervention types was consistently related to outgroup threat perception, perspective taking, and ideological orientation. Moreover, it was related to the plausibility of intervention in that the participants who believed the intervention perceived the gateway group as having a stronger dual identity, especially when they were exposed to the outgroup experience intervention. Therefore, the once-observed effectiveness of an intervention does not mean that the intervention will be effective in later experiments.

The importance of societal context

The interaction between intervention type and plausibility leads us to another essential yet sometimes neglected aspect of intergroup interventions - societal context. As Reddy and Amer (2023) argued, context is often taken into account superficially as an additional variable in research without deeper reflections on the potential specificities of particular social contexts. Overlooking variations in social context can lead to overgeneralizing findings obtained in a particular social setting.

A good example of how the undermining of particular societal variables unintentionally led to policy recommendations that might be harmful for minorities is the first meta-analysis of intergroup contact effects on prejudice (Pettigrew & Tropp, 2006). The authors analyzed the studies that tested Allport's contact hypothesis and demonstrated that contact typically reduces prejudice. As such, the effects of contact became one of the most prominent psychological findings that were incorporated in different policies (Paluck et al., 2019). However, further meta-analytic studies indicated that the effects of positive intergroup contact vary regarding different societal-level variables. For example, the relationship between contact and prejudice was shown to be consistently stronger in more egalitarian societies that do not value hierarchy so much, compared to those that are less egalitarian and more hierarchical (Kende et al., 2018). Moreover, a meta-analysis by Paluck and colleagues (2019) revealed that intergroup contact consistently reduces prejudice, however, that the magnitude of its effects depends on the intergroup context. The effect of contact between able-bodied and disabled individuals was relatively strong; on the contrary, the effect of contact on racial majority's prejudice towards a minority was much weaker, although still significantly larger than zero. Finally, a recent large-scale study indicated that minority members' positive contact with the majority can prevent them (minority) from supporting some (but not all) kinds of social change in favor of the minority group (Hässler et al., 2020). In other words, interventions that have favorable effects when applied to members of majority groups can require specific conditions to be beneficial when applied to minority groups.

Furthermore, although researchers are becoming more sensitive to context and slightly shifting their focus on the effects of intergroup interventions among minority group members (e.g., Hässler et al., 2020), there is still a large disproportion in favor of the samples from majority and higher-status groups. For example, a recent review of the experiments focused on the conflict between Palestinians and Israelis (Hakim et al., 2023) revealed that over 90% of the analyzed experiments were conducted on Israeli participants, while only 5% took both groups into account. Despite their one-sidedness, these experiments and their conclusions are seen as objective and generalizable. Similarly, Cheon and colleagues (2020) pointed out that the findings obtained on the samples from WEIRD[32] countries (especially the USA) tend to be generalized on the whole of humankind, which is not the case with the studies conducted with non-WEIRD samples. The results of our systematic review are in line with this: out of 60 included experiments, 20 were conducted in the USA, with the additional eight in the UK and four in Australia. Most of these studies focused on the participants from ethnic majorities, and only three experiments explored the minority members' bias against the majority. Three additional experiments considered the relations between two ethnic minority groups.

What we observed in our experiments is that shifting the focus from one group to another within the same intergroup context (ethnic Serbs and Bosniaks) can elicit different patterns of interventions' effects, the most serious one being the backfire of outgroup experience intervention - when assessed as implausible - in the Bosniak sample (experiment 5). This demonstrates how the differences in context regarding the recent history and current political climate can shape the effects of our interventions and even make them harmful in specific situations. A direct translation of such interventions into policies would have potential detrimental effects for intergroup relations, which is why social-identity researchers need to consider and describe the particular context of their studies in order to prevent over-generalization of their findings. This further leads to problems of generalizability and applicability of socio-psychological findings.

Generalizability and applicability of social-identity interventions

In the domain of intergroup-relations research, Bar-Tal and Hameiri (2020) argued that it is not enough to prove an intervention's effectiveness in a single social context. They even warned the researchers that intergroup interventions can be harmful if applied in a novel setting or on a novel population without prior testing. There is also evidence that intergroup interventions should be tailored for specific groups in order to satisfy their needs prior to reducing intergroup bias. For example, Nir and Halperin (2024) showed that three ideological groups (conservatives, centrists, and leftists) differently reacted to three distinct interventions that had the same aim - to reduce outgroup bias. What they observed was that exposing a particular ideological group to the content that aims to reduce their prejudice, and at the same time meets their psychological needs, successfully reduced intergroup bias. Thus, they suggested that prejudice can be reduced in any ideological group, but only if we take into account its members' specific needs. Similarly, Hameiri and colleagues (2016) observed that some particular interventions are only successful in bias reduction among the most prejudiced individuals. What we observed in Experiment 5 is in line with these findings: dual-identity intervention framed from the outgroup perspective can be harmful to individuals who do not believe its content. Thus, Bar-Tal and Hameiri (2020) suggested that laboratory researchers and practitioners should collaborate and inform each other in order to develop interventions that can be subject to rigorous experimental testing and, at the same time, be applicable in society.

A similar caution note came from the researchers who focused on meta-scientific processes and the application of psychological evidence in public policy (IJzerman et al., 2020). In the context of the contribution of psychological science to combat the COVID-19 pandemic, IJzerman and colleagues (2020) criticized the idea of using experimental evidence to directly inform public policies. They argued that the evidence obtained from individual experimental studies is insufficient for

[32] Western, Educated, Industrial, Rich, Democratic

policymaking. Instead, they proposed the model of validating evidence from single experiments through large-scale testing of their effects to the actual application of the findings (IJzerman et al., 2020).

The idea of reducing intergroup bias by modifying intergroup boundaries, as in social-identity interventions, may seem attractive and relatively easy to apply. However, designing interventions that call for reexamining intergroup boundaries and, at the same time, not threatening anyone's social identity might be challenging. Using the example of two dual-identity interventions, we demonstrated that the intervention that otherwise successfully improves intergroup attitude could backfire on the individuals who disbelieve its content - especially in the context that is more charged with intergroup threat. We also observed that disbelief in intervention content was related to the perception of outgroup threat and perspective taking. Thus, we can assume that the backfire effect would more likely occur among the individuals who already hold negative outgroup attitudes and who are unwilling (or unable) to take the perspective of an ethnocultural outgroup[33]. This raises the question of the generalizability of the effects of social-identity interventions and their real-world applicability.

Real-world effects and applications of social-identity interventions

Importantly, the questions of generalizability and plausibility are not the issue of social-identity interventions *per se* but of all light-touch interventions (Paluck et al., 2021). Meta-analytic evidence indicated that the overall power of such interventions in bias reduction is modest and ephemeral. Field experiments that they included into the analysis indicated the overall positive effects of different light-touch interventions on behavior, but also revealed the nuanced differences between contexts (Paluck et al., 2021).

Moreover, it revealed that some interventions have never been tested in the context they are intended for. For example, interventions that apply imagined contact interventions were designed for application in contexts where direct contact is impossible, however, they are almost exclusively tested in settings that allow direct contact (Paluck et al., 2021). Given the between-context differences in the interventions' effects, real-world application of the interventions tested exclusively in the laboratory can be not only ineffective, but also potentially harmful. This is also in line with what we observed in Experiments 4 and 5 - that the well examined intervention can backfire 1) in the context where it has never been tested and 2) among a particular group of individuals.

The meta-analytic findings on intergroup interventions are in sharp contrast with the recommendations regarding their testing and application (Bar-Tal & Hameiri, 2020; IJzerman, 2020). General recommendations regarding psychological intervention testing and application, as we already discussed, refer to the necessity of communication between researchers and practitioners, taking into account the context of testing and application of the interventions and large-scale testing of the interventions' effects in order to identify the contexts and situations where the interventions can be most successful. On the contrary, intergroup interventions are often tested in highly controlled laboratory settings, and they usually neglect the context or take it into account as a moderating variable but without any deeper considerations of its specificities (Paluck et al., 2019; Reddy & Amer, 2023). Therefore, in order to make the interventions more generalizable, the authors came up with a set of recommendations for future research (Blaylock et al., 2024).

Recommendations for broader generalizability and applicability of intergroup interventions

Blaylock and colleagues (2024) suggested that the researchers should take into account the beliefs and identities of the target population, especially those that are resistant to change - e.g., central

[33] We did not test causal paths more complex than a simple moderation, due to the sample sizes, which we discussed in the previous chapters. However, the observed correlation pattern allows us to assume that the individuals who assess interventions as implausible also score higher on intergroup threat perception and lower on ethnocultural perspective taking.

social identities or ideological beliefs. Considering these in this research allowed us to disentangle the role of individual differences in ideology, threat perception, perspective taking, and ethnic identification in intervention content's plausibility, effectiveness, and success. They also highlighted the importance of context, which we have already discussed in detail.

Another recommendation refers to the consideration of majority and minority perspectives. Across our experiments, we aimed to explore how members of a majority group react to the content about a minority when the content is framed from either a majority or minority perspective. We saw that framing from the minority perspective was more effective in inducing dual identity perception, as well as more successful in reducing the bias. However, we did not take into account a real minority perspective, i.e., none of our experiments was conducted with minority samples. A requirement for engaging participants from minority groups is reasonable, yet sometimes expensive or unattainable. Knowing how minority members develop their attitudes and what specific processes drive their intergroup behaviors can be essential for creating successful interventions that would benefit both a minority and a majority, and some recent studies did focus on both majority and minority perspectives within the same societal context (Häsler et al., 2020). However, minority group members can be difficult to reach, especially if their communities are highly marginalized (e.g., Roma people) or isolated. Of course, these obstacles can be overcome by building relationships and trust with such communities and by considering different methodological tools and approaches (e.g., ethnographic approach; see www.digifolk.eu for an example) when trying to reach them.

Real-world application of intergroup interventions

Further suggestions pointed out the pitfalls of sticking to a single theoretical framework. Blaylock and colleagues (2024) argued that using a single theory, or even worse, a single model can obscure the factors that either drive attitude change or discourage it. They suggested the eclectic use of theories, combined with the constant exploration of psychological processes by testing mediators and moderators of bias reduction. Here, we argue that it is important to add that moderators and mediators need to be theoretically sound (i.e., not to test random mediations), and that the researchers must be cautious about statistical power for their testing (Giner-Sorolla et al., 2024; Qin, 2023). Longitudinal designs are also suggested, given that causation cannot be unambiguously confirmed within cross-sectional studies.

In line with the suggestions by Bar-Tal and Hameiri (2020), communication with practitioners is essential for the successful application of interventions and their testing in a real-life setting. Interventions can be applied in various ways, e.g., through education, social and mass media campaigns, or interactive media. Applied interventions usually combine various paradigms and include the mechanisms of different psychological interventions to make a social change. One such example is the psychoeducative program conducted in Serbian high schools in 2019-2020, where students attended ten modules that promoted tolerance and intergroup cooperation (Psychosocial Innovation Network [PIN], 2020). Each module consisted of a series of interactive lessons and exercises, some of them directly representing light-touch interventions. As a result, attendants' justification of violence significantly decreased compared to the baseline, and so did their social distance towards ethnic outgroups (PIN, 2020). Similar successful programs were applied in different (post-) conflict contexts, also taking into account the age of the target group (see Counihan & Taylor, 2024 for a review). As for mass- and social media interventions, they can also use mechanisms of multiple interventions in order to reduce intergroup bias (see Littman et al., 2024 for a review). They can also serve as a means of distributing messages that make the ideas of shared social values or shared identities salient. Such a prominent example is Barack Obama's speech to the Muslim minority in the USA, where he made their complex identity salient by saying: "You're not Muslim or American. You're Muslim and American." (The White House, 2016).

Finally, interactive platforms can also be used as a tool that combines different interventions for prejudice reduction, including social-identity interventions. One such example is the DigiFolk project that combined education through entertainment (edutainment) with vicarious outgroup contact

in order to make cultural similarities more salient than cultural differences (DigiFolk, 2024). In sum, light-touch interventions, including those that focus on social identities, can successfully be applied in a broader social context (outside the lab), but not as a standalone intervention. They should rather be combined with other successful interventions and tools in order to make a positive change with a special focus on not doing any harm to powerless and marginalized groups.

The importance of political will

Although these interventions and programs have limited effects and often include individuals who are already interested in social change towards intergroup equality (i.e., those who do not have extreme negative outgroup attitudes), their large-scale application can elicit social change (Blaylock et al., 2024). Despite their modest effects, their application to whole cohorts of school students can be visible on a societal level (see Reimer et al., 2022). However, the application of such large-scale intervention programs requires political will and the approval of authorities. In other words, such initiatives can be implemented in societies where intergroup trust and willingness to reconcile and to rethink the group's past are present.

The issue of political will for intergroup intervention application is especially important in divided (post-) conflict societies. In such societies, trust is relatively low, especially between the conflicted groups, and rebuilding it is essential for positive attitudinal and behavioral change (Kenworthy et al., 2016). In such societies, narratives about the conflict are salient in multiple aspects of culture and education, especially in history textbooks, where own-group victimization is combined with outgroup derogation (Ivanović et al., 2024; Jovanović & Bermúdez, 2021). Therefore, there is usually a strong resistance against the application of educational initiatives that should lead to reconciliation. One such initiative includes joint history textbooks (https://www.jointhistory.net/index-eng.html), made to motivate the students to re-think the dominant narratives. However, the authorities do not accept it, and the analyses of the history curriculum indicate that the official teaching materials deepen the intergroup division by highlighting the outgroup's atrocities and consequential ingroup suffering (Organization for Security and Co-operation in Europe [OSCE], 2022). Thus, although the initiative utilizes well-studied practices that should eventually lead to intergroup bias reduction, the absence of political will and support from authorities prevents the implementation of such initiatives on a larger scale.

Conclusion

Across a systematic review and six experiments conducted in a post-conflict context of former Yugoslavia, we demonstrated the importance of the use of methodological tools - plausibility and manipulation checks - in testing social-identity interventions for intergroup bias reduction. While we found that manipulation checks are widely used in this research area, plausibility checks were found to be uncommon. We showed that the use of such checks is important, especially in the societal contexts that are charged with intergroup threats. What we observed is that the individuals' prior beliefs and attitudes can cause them to reject the content of social-identity interventions as implausible, which reflects on the results of experiments that aim to test such interventions. Using plausibility assessment as an exclusion criterion can obscure the effects that such interventions have on relatively highly prejudiced individuals: instead of bias reduction, we observed the backfire effect of an intervention that has formerly been discussed as an effective way of prejudice reduction. In addition, we demonstrated that framing the same intervention content from two different perspectives (ingroup and outgroup perspective) can have different effects on prejudice.

Therefore, we recommend that future research on social-identity interventions take into account the characteristics of the intergroup context where interventions are tested. Further, we argue that plausibility and manipulation checks should be regularly used, even for interventions that have already been shown to reduce the bias successfully. Researchers should also take into account the individual differences that could modify interventions' effects in order to detect subgroups that could atypically react to the intervention content.

Finally, we argue that social-identity interventions should be applied on a larger scale by incorporating them in the larger narratives - whether it is in official education or everyday public speech. However, it is essential to take into account who are the proponents and audience of such interventions in order to prevent backfire effects and promote positive social change.

7. Literature

Aberson, C. L., Healy, M., & Romero, V. (2000). Ingroup Bias and Self-Esteem: A Meta-Analysis. *Personality and Social Psychology Review*, *4*(2), 157–173. https://doi.org/10.1207/S15327957PSPR0402_04

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality (Studies of Prejudice)* (Abridged ed., reissued). Norton.

Agency for statistics of Bosnia and Herzegovina. (2019). *Census of Population, Households and Dwellings in Bosnia and Herzegovina: Ethnicity/national affiliation, religion and mother tongue [Popis stanovništva, domaćinstava i stanova u Bosni i Hercegovini: Etnička/nacionalna pripadnost, vjeroispovijest i maternji jetik]*. Agency for statistics of Bosnia and Herzegovina.

Alexandre, J. D., Waldzus, S., & Wenzel, M. (2016). Complex inclusive categories of positive and negative valence and prototypicality claims in asymmetric intergroup relations. *British Journal of Social Psychology*, *55*(3), 457–483. https://doi.org/10.1111/bjso.12148

Allport, G. (1954). *The nature of prejudice*. Addison-Wesley.

Aronow, P. M., Baron, J., & Pinson, L. (2019). A Note on Dropping Experimental Subjects who Fail a Manipulation Check. *Political Analysis*, *27*(4), 572–589. https://doi.org/10.1017/pan.2019.5

Badea, C., Jetten, J., Czukor, G., & Askevis-Leherpeux, F. (2010). The bases of identification: When optimal distinctiveness needs face social identity threat. *British Journal of Social Psychology*, *49*(1), 21–41. https://doi.org/10.1348/000712608X397665

Banfield, J. C., & Dovidio, J. F. (2013). Whites' perceptions of discrimination against Blacks: The influence of common identity. *Journal of Experimental Social Psychology*, *49*(5), 833–841. https://doi.org/10.1016/j.jesp.2013.04.008

Barrett, D. W., Neuberg, S. L., & Luce, C. (2023). Suspicion About Suspicion Probes: Ways Forward. *Perspectives on Psychological Science*, 17456916231195855. https://doi.org/10.1177/17456916231195855

Bar-Tal, D., Diamond, A. H., & Nasie, M. (2017). Political socialization of young children in intractable conflicts: Conception and evidence. *International Journal of Behavioral Development*, *41*(3), 415–425. https://doi.org/10.1177/0165025416652508

Bar-Tal, D., & Hameiri, B. (2020). Interventions to change well-anchored attitudes in the context of intergroup conflict. *Social and Personality Psychology Compass*, *14*(7), e12534. https://doi.org/10.1111/spc3.12534

Bartlett, P. L., Long, P. M., Lugosi, G., & Tsigler, A. (2020). Benign overfitting in linear regression. *Proceedings of the National Academy of Sciences*, *117*(48), 30063–30070. https://doi.org/10.1073/pnas.1907378117

Bauer, C. A., & Hannover, B. (2020). Changing "us" and hostility towards "them"—Implicit theories of national identity determine prejudice and participation rates in an anti-immigrant petition. *European Journal of Social Psychology*, *50*(4), 810–826. https://doi.org/10.1002/ejsp.2666

Bayes, R., & Druckman, J. N. (2021). Motivated reasoning and climate change. *Current Opinion in Behavioral Sciences*, *42*, 27–35. https://doi.org/10.1016/j.cobeha.2021.02.009

Berry, J. W. (1997). Immigration, Acculturation, and Adaptation. *Applied Psychology*, *46*(1), 5–34. https://doi.org/10.1111/j.1464-0597.1997.tb01087.x

Berry, J. W. (2006). Contexts of acculturation. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge handbook of acculturation psychology* (pp. 27–42). Cambridge University Press.

Bikmen, N., & Durkin, K. (2014). Equality for all? White Americans' willingness to address inequality with Asian and African Americans. *Cultural Diversity & Ethnic Minority Psychology*, *20*(4), 591–600. https://doi.org/10.1037/a0036502

Blaylock, D., Turner, R. N., & Crisp, R. J. (2024). Redrawing the boundaries: Creating Positive intergroup relations interventions through shared values, memberships, and identities. In E. Halperin, B. Hameiri, & R. Littman (Eds.), *Psychological intergroup interventions: Evidence-based approaches to improve intergroup relations* (pp. 17–30). Routledge.

Branković, M., Pavlović, M., Žeželj, I., Vladisavljević, M., Jovanović, O., & Petrović, N. (2016). Social identity complexity and inclusiveness as predictors of intergroup emotions. *Primenjena Psihologija*, *8*(4), 363. https://doi.org/10.19090/pp.2015.4.363-378

Branscombe, N., Ellemers, N., Spears, R., & Doosje, B. (1999). The context and content of identity threat. In N. Ellemers, R. Spears, & B. Doosje (Eds.), *Social identity: Context, commitment, content* (pp. 35–58). Blackwell Science.

Brewer, M. (1991). The Social Self: On Being the Same and Different at the Same Time. *Personality and Social Psychology Bulletin*, *17*(5), 475–482. https://doi.org/10.1177/0146167291175001

Brewer, M. (2012). Optimal Distinctiveness Theory. In P. Van Lange, A. Kruglanski W., & T. E. Higgins (Eds.), *Handbook of Theories of Social Psychology* (Vol. 2, pp. 81–98). SAGE.

Brewer, M., & Gaertner, S. L. (2001). Toward Reduction of Prejudice: Intergroup Contact and Social Categorization. In R. Brown & S. L. Gaertner (Eds.), *Blackwell Handbook of Social Psychology: Intergroup Processes* (pp. 451–472). Blackwell Publishers Ltd.

Brewer, M., & Miller, N. (1984). Beyond the Contact Hypothesis: Theoretical Perspectives on Desegregation. In N. Miller & M. Brewer (Eds.), *Groups in Contact: The Psychology of Desegregation* (pp. 281–302). Elsevier.

Brewer, M., & Pierce, K. P. (2005). Social Identity Complexity and Outgroup Tolerance. *Personality and Social Psychology Bulletin*, *31*(3), 428–437. https://doi.org/10.1177/0146167204271710

Brochu, P. M., Banfield, J. C., & Dovidio, J. F. (2020). Does a Common Ingroup Identity Reduce Weight Bias? Only When Weight Discrimination Is Salient. *Frontiers in Psychology*, *10*, 3020. https://doi.org/10.3389/fpsyg.2019.03020

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 37, p. 255.343). Elsevier.

Brown, R., & Zagefka, H. (2011). The Dynamics of Acculturation. In *Advances in Experimental Social Psychology* (Vol. 44, pp. 129–184). Elsevier. https://doi.org/10.1016/B978-0-12-385522-0.00003-2

Bryan, C. J., Tipton, E., & Yeager, D. S. (2021). Behavioural science is unlikely to change the world without a heterogeneity revolution. *Nature Human Behaviour*, *5*(8), 980–989. https://doi.org/10.1038/s41562-021-01143-3

Bryan, C. J., Walton, G. M., Rogers, T., & Dweck, C. S. (2011). Motivating voter turnout by invoking the self. *Proceedings of the National Academy of Sciences*, *108*(31), 12653–12656. https://doi.org/10.1073/pnas.1103343108

Caprara, G. V., Vecchione, M., Schwartz, S. H., Schoen, H., Bain, P. G., Silvester, J., Cieciuch, J., Pavlopoulos, V., Bianchi, G., Kirmanoglu, H., Baslevent, C., Mamali, C., Manzi, J., Katayama, M., Posnova, T., Tabernero, C., Torres, C., Verkasalo, M., Lönnqvist, J.-E., … Caprara, M. G. (2018). The Contribution of Religiosity to Ideology: Empirical Evidences From Five Continents. *Cross-Cultural Research*, *52*(5), 524–541. https://doi.org/10.1177/1069397118774233

Castelli, L., Tomelleri, S., & Zogmaister, C. (2008). Implicit Ingroup Metafavoritism: Subtle Preference for Ingroup Members Displaying Ingroup Bias. *Personality and Social Psychology Bulletin*, *34*(6), 807–818. https://doi.org/10.1177/0146167208315210

Celeste, L., Baysu, G., Phalet, K., & Brown, R. (2021). Self-affirmation and test performance in ethnically diverse schools: A new dual-identity affirmation intervention. *Journal of Social Issues*, *77*(3), 824–850. https://doi.org/10.1111/josi.12418

Cheon, B. K., Melani, I., & Hong, Y. (2020). How USA-Centric Is Psychology? An Archival Study of Implicit Assumptions of Generalizability of Findings to Human Nature Based on Origins of Study Samples. *Social Psychological and Personality Science*, *11*(7), 928–937. https://doi.org/10.1177/1948550620927269

Chester, D. S., & Lasko, E. N. (2021). Construct Validation of Experimental Manipulations in Social Psychology: Current Practices and Recommendations for the Future. *Perspectives on Psychological Science*, *16*(2), 377–395. https://doi.org/10.1177/1745691620950684

Constitution of the Republic of Serbia, Articles 75-81. http://www.parlament.gov.rs/upload/documents/Ustav_Srbije_pdf.pdf

Converse, J. M., & Presser, S. (1986). *Survey questions: Handcrafting the standardized questionnaire* (Vol. 63). SAGE.

Counihan, D., & Taylor, L. K. (2024). School-based Interventions to Improve Intergroup Relations from Early Childhood to Adolescence. In E. Halperin, B. Hameiri, & R. Littman (Eds.), *Psychological intergroup interventions: Evidence-based approaches to improve intergroup relations* (pp. 151–164). Routledge.

Crisp, R. J., & Beck, S. R. (2005). Reducing Intergroup Bias: The Moderating Role of Ingroup Identification. *Group Processes & Intergroup Relations*, *8*(2), 173–185. https://doi.org/10.1177/1368430205051066

Crisp, R. J., & Hewstone, M. (2007). Multiple Social Categorization. In *Advances in Experimental Social Psychology* (Vol. 39, pp. 163–254). Elsevier. https://doi.org/10.1016/S0065-2601(06)39004-1

Crisp, R. J., Stone, C. H., & Hall, N. R. (2006). Recategorization and Subgroup Identification: Predicting and Preventing Threats From Common Ingroups. *Personality and Social Psychology Bulletin*, *32*(2), 230–243. https://doi.org/10.1177/0146167205280908

Crisp, R. J., Walsh, J., & Hewstone, M. (2006). Crossed Categorization in Common Ingroup Contexts. *Personality and Social Psychology Bulletin*, *32*(9), 1204–1218. https://doi.org/10.1177/0146167206289409

Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross-Group Friendships and Intergroup Attitudes: A Meta-Analytic Review. *Personality and Social Psychology Review*, *15*(4), 332–351. https://doi.org/10.1177/1088868311411103

Diehl, M. (1990). The Minimal Group Paradigm: Theoretical Explanations and Empirical Findings. *European Review of Social Psychology*, *1*(1), 263–292. https://doi.org/10.1080/14792779108401864

Đorđević, A. (2020). Kompleksnost i inkluzivnost socijalnog identiteta kao posrednici uticala socijalne norme na odnos prema nepripadničkim grupama. *Primenjena Psihologija*, *13*(2), 263–281.

Dovidio, J. F., Gaertner, S. L., & Saguy, T. (2007). Another view of "we": Majority and minority group perspectives on a common ingroup identity. *European Review of Social Psychology*, *18*(1), 296–330. https://doi.org/10.1080/10463280701726132

Duckitt, J., & Sibley, C. G. (2010). Personality, Ideology, Prejudice, and Politics: A Dual-Process Motivational Model. *Journal of Personality*, *78*(6), 1861–1894. https://doi.org/10.1111/j.1467-6494.2010.00672.x

Ejelöv, E., & Luke, T. J. (2020). "Rarely safe to assume": Evaluating the use and interpretation of manipulation checks in experimental social psychology. *Journal of Experimental Social Psychology*, *87*, 103937. https://doi.org/10.1016/j.jesp.2019.103937

Ellemers, N., & Haslam, A. (2012). Social Identity Theory. In P. Van Lange, A. Kruglanski W., & T. E. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 379–398). SAGE.

Ellis, J. (2022). Motivated reasoning and the ethics of belief. *Philosophy Compass*, *17*(6), e12828. https://doi.org/10.1111/phc3.12828

Espinosa, A., Guerra, R., Sanatkar, S., Paolini, S., Damigella, D., Licciardello, O., & Gaertner, S. L. (2018). Identity Inclusiveness and Centrality: Investigating Identity Correlates of Attitudes toward Immigrants and Immigration Policies. *Journal of Social Issues*, *74*(4), 674–699. https://doi.org/10.1111/josi.12293

Falomir-Pichastor, J. M., & Frederic, N. S. (2013). The dark side of heterogeneous ingroup identities: National identification, perceived threat, and prejudice against immigrants. *Journal of Experimental Social Psychology*, *49*(1), 72–79. https://doi.org/10.1016/j.jesp.2012.08.016

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Feldman, S., & Huddy, L. (2018). Racially motivated reasoning. In H. Lavine & C. Taber (Eds.), *The feeling, thinking citizen. Essas in honor of Milton Lodge*. Routledge.

Fiedler, K., McCaughey, L., & Prager, J. (2021). Quo Vadis, Methodology? The Key Role of Manipulation Checks for Validity Control and Quality of Science. *Perspectives on Psychological Science*, *16*(4), 816–826. https://doi.org/10.1177/1745691620970602

Finchilescu, G. (2010). Intergroup Anxiety in Interracial Interaction: The Role of Prejudice and Metastereotypes: Prejudice and Metastereotypes as Barriers to Interracial Interaction. *Journal of Social Issues*, *66*(2), 334–351. https://doi.org/10.1111/j.1540-4560.2010.01648.x

Fine, R. D., Kteily, N. S., Chen, J. M., Roberts, S. O., & Ho, A. K. (2023). United we stand? Perceived loyalty of dual nationals, multiracial people, and dual state residents. *Group Processes & Intergroup Relations*, *26*(5), 913–933. https://doi.org/10.1177/13684302221096322

Frey, F. E., & Tropp, L. R. (2006). Being Seen As Individuals Versus As Group Members: Extending Research on Metaperception to Intergroup Contexts. *Personality and Social Psychology Review*, *10*(3), 265–280. https://doi.org/10.1207/s15327957pspr1003_5

Fritzlen, K. A., Phillips, J. E., March, D. S., Grzanka, P. R., & Olson, M. A. (2020). I Know (What) You Are, But What Am I? The Effect of Recategorization Threat and Perceived Immutability on Prejudice. *Personality and Social Psychology Bulletin*, *46*(1), 94–108. https://doi.org/10.1177/0146167219843932

Gaertner, S. L., & Dovidio, J. F. (2012). The Common Ingroup Identity Model. In P. Van Lange, A. Kruglanski W., & T. E. Higgins, *Handbook of theories of social psychology* (Vol. 2, pp. 439–457). SAGE.

Gaertner, S. L., Dovidio, J. F., Anastasio, P. A., Bachman, B. A., & Rust, M. C. (1993). The Common Ingroup Identity Model: Recategorization and the Reduction of Intergroup Bias. *European Review of Social Psychology*, *4*(1), 1–26. https://doi.org/10.1080/14792779343000004

Gaertner, S. L., Dovidio, J. F., Banker, B. S., Houlette, M., Johnson, K. M., & McGlynn, E. A. (2000). Reducing intergroup conflict: From superordinate goals to decategorization, recategorization, and mutual differentiation. *Group Dynamics: Theory, Research, and Practice*, *4*(1), 98–114. https://doi.org/10.1037/1089-2699.4.1.98

Gaertner, S. L., Dovidio, J. F., Rust, M. C., Nier, J. A., Banker, B. S., Ward, C. M., Mottola, G. R., & Houlette, M. (1999). Reducing intergroup bias: Elements of intergroup cooperation. *Journal of Personality and Social Psychology*, *76*(3), 388–402. https://doi.org/10.1037/0022-3514.76.3.388

Gaertner, S. L., Mann, J., Murrell, A., & Dovidio, J. F. (1989). Reducing Intergroup Bias: The Benefits of Recategorization. *Journal of Personality and Social Psychology*, *57*(2), 239–249.

Gashi, S. (2016). *The history of Kosovo: In the textbooks of Kosovo, Albania, Serbia, Montenegro and Macedonia*. alter habitus.

Gerber, A. S., Huber, G. A., & Fang, A. H. (2023). Voting behavior is unaffected by subtle linguistic cues: Evidence from a psychologically authentic replication. *Behavioural Public Policy*, *7*(2), 380–394. https://doi.org/10.1017/bpp.2020.57

Gerber, A. S., Huber, G., & Fang, A. (2018). Do Subtle Linguistic Interventions Priming a Social Identity as a Voter Have Outsized Effects on Voter Turnout? Evidence From a New Replication Experiment. *Political Psychology*, *39*(4), 925–938. https://doi.org/10.1111/pops.12446

Giner-Sorolla, R., Montoya, A. K., Reifman, A., Carpenter, T., Lewis, N. A., Aberson, C. L., Bostyn, D. H., Conrique, B. G., Ng, B. W., Schoemann, A. M., & Soderberg, C. (2024). Power to Detect What? Considerations for Planning and Evaluating Sample Size. *Personality and Social Psychology Review*, *28*(3), 276–301. https://doi.org/10.1177/10888683241228328

Glasford, D. E., & Calcagno, J. (2012). The conflict of harmony: Intergroup contact, commonality and political solidarity between minority groups. *Journal of Experimental Social Psychology*, *48*(1), 323–328. https://doi.org/10.1016/j.jesp.2011.10.001

Glasford, D. E., & Dovidio, J. F. (2011). E pluribus unum: Dual identity and minority group members' motivation to engage in contact, as well as social change. *Journal of Experimental Social Psychology*, *47*(5), 1021–1024. https://doi.org/10.1016/j.jesp.2011.03.021

Gómez, Á., Dovidio, J. F., Gaertner, S. L., Fernández, S., & Vázquez, A. (2013). Responses to Endorsement of Commonality by Ingroup and Outgroup Members: The Roles of Group Representation and Threat. *Personality and Social Psychology Bulletin*, *39*(4), 419–431. https://doi.org/10.1177/0146167213475366

González, R., & Brown, R. (2003). Generalization of positive attitude as a function of subgroup and superordinate group identifications in intergroup contact. *European Journal of Social Psychology*, *33*(2), 195–214. https://doi.org/10.1002/ejsp.140

González, R., & Brown, R. (2006). Dual identities in intergroup contact: Group status and size moderate the generalization of positive attitude change. *Journal of Experimental Social Psychology*, *42*(6), 753–767. https://doi.org/10.1016/j.jesp.2005.11.008

Greenaway, K. H., Louis, W. R., & Wohl, M. J. A. (2012). Awareness of Common Humanity Reduces Empathy and Heightens Expectations of Forgiveness for Temporally Distant Wrongdoing. *Social Psychological and Personality Science*, *3*(4), 446–454. https://doi.org/10.1177/1948550611425861

Gruijters, S. L. K. (2022). Making inferential leaps: Manipulation checks and the road towards strong inference. *Journal of Experimental Social Psychology*, *98*, 104251. https://doi.org/10.1016/j.jesp.2021.104251

Guimond, S., De La Sablonnière, R., & Nugier, A. (2014). Living in a multicultural world: Intergroup ideologies and the societal context of intergroup relations. *European Review of Social Psychology*, *25*(1), 142–188. https://doi.org/10.1080/10463283.2014.957578

Hakim, N., Abi-Ghannam, G., Saab, R., Albzour, M., Zebian, Y., & Adams, G. (2023). Turning the lens in the study of precarity: On experimental social psychology's acquiescence to the settler-colonial status quo in historic Palestine. *British Journal of Social Psychology*, *62*(S1), 21–38. https://doi.org/10.1111/bjso.12595

Halabi, S., Dovidio, J. F., & Nadler, A. (2014). Seeking help from the low status group: Effects of status stability, type of help and social categorization. *Journal of Experimental Social Psychology*, *53*, 139–144. https://doi.org/10.1016/j.jesp.2014.03.010

Hall, D. L., Matz, D. C., & Wood, W. (2010). Why Don't We Practice What We Preach? A Meta-Analytic Review of Religious Racism. *Personality and Social Psychology Review*, *14*(1), 126–139. https://doi.org/10.1177/1088868309352179

Hameiri, B., Porat, R., Bar-Tal, D., & Halperin, E. (2016). Moderating attitudes in times of violence through paradoxical thinking intervention. *Proceedings of the National Academy of Sciences*, *113*(43), 12105–12110. https://doi.org/10.1073/pnas.1606182113

Haslam, S. A. (2011). *Psychology in organizations: The social identity approach* (2. ed., reprint). SAGE Publ.

Haslam, S. A., Turner, J. C., Oakes, P. J., McGarty, C., & Reynolds, K. J. (1997). The Group as a Basis for Emergent Stereotype Consensus. *European Review of Social Psychology*, *8*(1), 203–239. https://doi.org/10.1080/14792779643000128

Hässler, T., Ullrich, J., Bernardino, M., Shnabel, N., Laar, C. V., Valdenegro, D., Sebben, S., Tropp, L. R., Visintin, E. P., González, R., Ditlmann, R. K., Abrams, D., Selvanathan, H. P., Branković, M., Wright, S., Von Zimmermann, J., Pasek, M., Aydin, A. L., Žeželj, I., … Ugarte, L. M. (2020). A large-scale test of the link between intergroup contact and support for social change. *Nature Human Behaviour*, *4*(4), 380–386. https://doi.org/10.1038/s41562-019-0815-z

Hauser, D. J., Ellsworth, P. C., & Gonzalez, R. (2018). Are Manipulation Checks Necessary? *Frontiers in Psychology*, *9*, 998. https://doi.org/10.3389/fpsyg.2018.00998

Hauser, D. J., Paolaci, G., & Chandler, J. (2019). Common Concerns with MTurk as a Participant Pool: Evidence and Solutions. In F. Kardes, P. M. Herr, & N. Schwarz (Eds.), *Handbook in Research Methods in Consumer Psychology* (pp. 319–337). Routledge.

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup Bias. *Annual Review of Psychology*, *53*(1), 575–604. https://doi.org/10.1146/annurev.psych.53.100901.135109

Hirschberger, G., Lifshin, U., Seeman, S., Ein-Dor, T., & Pyszczynski, T. (2017). When criticism is ineffective: The case of historical trauma and unsupportive allies. *European Journal of Social Psychology*, *47*(3), 304–319. https://doi.org/10.1002/ejsp.2253

Hogg, M., A. (2001). Social Categorization, Depersonalization, and Group Behavior. In M. Hogg A. & R. S. Tindale (Eds.), *Blackwell Handbook of Social Psychology: Group Processes* (pp. 56–85). Blackwell Publishers Ltd.

Hong, Y.-Y., Coleman, J., Chan, G., Wong, R. Y. M., Chiu, C., Hansen, I. G., Lee, S.-L., Tong, Y.-Y., & Fu, H.-Y. (2004). Predicting Intergroup Bias: The Interactive Effects of Implicit Theory and Social Identity. *Personality and Social Psychology Bulletin*, *30*(8), 1035–1047. https://doi.org/10.1177/0146167204264791

Hornsey, M. J., & Hogg, M. A. (2000). Subgroup Relations: A Comparison of Mutual Intergroup Differentiation and Common Ingroup Identity Models of Prejudice Reduction. *Personality and Social Psychology Bulletin*, *26*(2), 242–256. https://doi.org/10.1177/0146167200264010

Igartua, J., Wojcieszak, M., & Kim, N. (2019). How the interplay of imagined contact and first-person narratives improves attitudes toward stigmatized immigrants: A conditional process model. *European Journal of Social Psychology*, *49*(2), 385–397. https://doi.org/10.1002/ejsp.2509

IJzerman, H., Lewis, N. A., Przybylski, A. K., Weinstein, N., DeBruine, L., Ritchie, S. J., Vazire, S., Forscher, P. S., Morey, R. D., Ivory, J. D., & Anvari, F. (2020). Use caution when applying behavioural science to policy. *Nature Human Behaviour*, *4*(11), 1092–1094. https://doi.org/10.1038/s41562-020-00990-w

Ivanović, J., Stanković, B., & Žeželj, I. (2024). When Our History Meets Their History: Strategies Young People in Serbia Use to Coordinate Conflicting Group Narratives. *European Journal of Social Psychology*, ejsp.3119. https://doi.org/10.1002/ejsp.3119

Jasinskaja-Lahti, I., Renvik, T. A., Van Der Noll, J., Eskelinen, V., Rohmann, A., & Verkuyten, M. (2020). Dual citizenship and the perceived loyalty of immigrants. *Group Processes & Intergroup Relations*, *23*(7), 996–1013. https://doi.org/10.1177/1368430219872809

Jetten, J., Spears, R., & Manstead, A. S. R. (1996). Intergroup norms and intergroup discrimination: Distinctive self-categorization and social identity effects. *Journal of Personality and Social Psychology*, *71*(6), 1222–1233. https://doi.org/10.1037/0022-3514.71.6.1222

Jetten, J., Spears, R., & Manstead, A. S. R. (1997). Distinctiveness threat and prototypicality: Combined effects on intergroup discrimination and collective self-esteem. *European Journal of Social Psychology*, *27*(6), 635–657. https://psycnet.apa.org/doi/10.1002/(SICI)1099-0992(199711/12)27:6%3C635::AID-EJSP835%3E3.0.CO;2-#

Jovanović, R., & Bermúdez, Á. (2021). The next generation: Nationalism and violence in the narratives of Serbian students on the break-up of Yugoslavia. *Studies in Ethnicity and Nationalism*, *21*(1), 2–25. https://doi.org/10.1111/sena.12339

Kane, J. V., & Barabas, J. (2019). No Harm in Checking: Using Factual Manipulation Checks to Assess Attentiveness in Experiments. *American Journal of Political Science*, *63*(1), 234–249. https://doi.org/10.1111/ajps.12396

Kende, J., Phalet, K., Van Den Noortgate, W., Kara, A., & Fischer, R. (2018). Equality Revisited: A Cultural Meta-Analysis of Intergroup Contact and Prejudice. *Social Psychological and Personality Science*, *9*(8), 887–895. https://doi.org/10.1177/1948550617728993

Kenworthy, J. B., Voci, A., Ramiah, A. A., Tausch, N., Hughes, J., & Hewstone, M. (2016). Building Trust in a Postconflict Society: An Integrative Model of Cross-group Friendship and Intergroup Emotions. *Journal of Conflict Resolution*, *60*(6), 1041–1070. https://doi.org/10.1177/0022002714564427

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480–498. https://doi.org/10.1037/0033-2909.108.3.480

Kunst, J. R., Thomsen, L., & Dovidio, J. F. (2019). Divided loyalties: Perceptions of disloyalty underpin bias toward dually-identified minority-group members. *Journal of Personality and Social Psychology, 117*(4), 807–838. https://doi.org/10.1037/pspi0000168

Kuru, O., Pasek, J., & Traugott, M. W. (2017). Motivated Reasoning in the Perceived Credibility of Public Opinion Polls. *Public Opinion Quarterly*, *81*(2), 422–446. https://doi.org/10.1093/poq/nfx018

Lakens, D., & Caldwell, A. R. (2021). Simulation-Based Power Analysis for Factorial Analysis of Variance Designs. *Advances in Methods and Practices in Psychological Science*, *4*(1), 2515245920951503. https://doi.org/10.1177/2515245920951503

Latrofa, M., Vaes, J., & Cadinu, M. (2012). Self-Stereotyping: The Central Role of an Ingroup Threatening Identity. *The Journal of Social Psychology*, *152*(1), 92–111. https://doi.org/10.1080/00224545.2011.565382

Leach, C. W., & Smith, H. J. (2006). By whose standard? The affective implications of ethnic minorities' comparisons to ethnic minority and majority referents. *European Journal of Social Psychology*, *36*(5), 747–760. https://doi.org/10.1002/ejsp.315

Leiner, D. (2021). *SoSci Survey [Computer software]*. [Computer software]. https://www.soscisurvey.de

Leonardelli, G. J., & Loyd, D. L. (2016). Optimal Distinctiveness Signals Membership Trust. *Personality and Social Psychology Bulletin*, *42*(7), 843–854. https://doi.org/10.1177/0146167216643934

Lero, N. (2023). Mothers and Children of the Republic of Srpska: Locating Nationalism in Pronatalist Discourse in Post-War Bosnia and Herzegovina. *SEEU Review*, *18*(2), 35–54. https://doi.org/10.2478/seeur-2023-0056

Levy, A. (2019). *Gateway Groups in the Western Balkans* [..Sav]. OSF. https://osf.io/p9xvf/

Levy, A., Galinsky, A., Nguyen, C. Q., Saguy, T., Ikizer, E. G., & Dovidio, J. F. (2023). Ingroup love, outgroup hate, and the gateway group effect: Comparing the direct and indirect impact of dual versus single identification. *PLOS ONE*, *18*(8), e0287631. https://doi.org/10.1371/journal.pone.0287631

Levy, A., Halperin, E., Van Zomeren, M., & Saguy, T. (2019). Inter-racial Gateways: The Potential of Biracials to Reduce Threat and Prejudice in Inter-racial Dynamics. *Race and Social Problems*, *11*(2), 119–132. https://doi.org/10.1007/s12552-018-9257-x

Levy, A., Saguy, T., Halperin, E., & Van Zomeren, M. (2017). Bridges or Barriers? Conceptualization of the Role of Multiple Identity Gateway Groups in Intergroup Relations. *Frontiers in Psychology*, *8*, 1097. https://doi.org/10.3389/fpsyg.2017.01097

Levy, A., Saguy, T., Van Zomeren, M., & Halperin, E. (2017). Ingroups, outgroups, and the gateway groups between: The potential of dual identities to improve intergroup relations. *Journal of Experimental Social Psychology*, *70*, 260–271. https://doi.org/10.1016/j.jesp.2016.09.011

Levy, A., Žeželj, I., Branković, M., Dušanić, S., Van Zomeren, M., Saguy, T., & Halperin, E. (2019). Complex Social Identities and Intergroup Relations: Gateway Groups in the Western Balkans. *Social Psychology*, *50*(3), 201–206. https://doi.org/10.1027/1864-9335/a000379

Littman, R., Bilali, R., Hameiri, B., Hameiri, B., & Littman, R. (2024). Promoting Peace through Mass Media Interventions. In E. Halperin (Ed.), *Psychological intergroup interventions: Evidence-based approaches to improve intergroup relations* (pp. 151–164). Routledge.

Liu, J. H., & Hilton, D. J. (2005). How the past weighs on the present: Social representations of history and their role in identity politics. *British Journal of Social Psychology, 44*(4), 537–556. https://doi.org/10.1348/014466605X27162

Livingstone, A. G., Haslam, S. A., Postmes, T., & Jetten, J. (2011). "We Are, Therefore We Should": Evidence That In-Group Identification Mediates the Acquisition of In-Group Norms. *Journal of Applied Social Psychology*, *41*(8), 1857–1876. https://doi.org/10.1111/j.1559-1816.2011.00794.x

Ludigdo, U., & Mashuri, A. (2021). Negative Evaluations of National Ethics and Its Impact on Islamic Radicalism. *Sage Open*, *11*(3), 21582440211041099. https://doi.org/10.1177/21582440211041099

Maier, J., & Richter, T. (2013). Text Belief Consistency Effects in the Comprehension of Multiple Texts With Conflicting Information. *Cognition and Instruction*, *31*(2), 151–175. https://doi.org/10.1080/07370008.2013.769997

Memorial center Srebrenica. (2022). *Srebrenica genocide denial report 2022*. https://srebrenicamemorial.org/assets/photos/editor/_mcs_izvjestaj_ENG_2022_FINAL_DI.pdf

Migdal, M. J., Hewstone, M., & Mullen, B. (1998). The effects of crossed categorization on intergroup evaluations: A meta-analysis. *British Journal of Social Psychology, 37*(3), 303–324. https://doi.org/10.1111/j.2044-8309.1998.tb01174.x

Miller, K. P., Brewer, M., & Arbuckle, N. L. (2009). Social Identity Complexity: Its Correlates and Antecedents. *Group Processes & Intergroup Relations*, *12*(1), 79–94. https://doi.org/10.1177/1368430208098778

Morier, D., Bryan, A. E. B., & Kasdin, L. (2013). The effects of group identity, group choice, and strength of group identification on intergroup sensitivity. *Group Dynamics: Theory, Research, and Practice*, *17*(1), 14–29. https://doi.org/10.1037/a0030190

Nadler, A., & Halabi, S. (2006). Intergroup helping as status relations: Effects of status stability, identification, and type of help on receptivity to high-status group's help. *Journal of Personality and Social Psychology*, *91*(1), 97–110. https://doi.org/10.1037/0022-3514.91.1.97

Nadler, A., Harpaz-Gorodeisky, G., & Ben-David, Y. (2009). Defensive helping: Threat to group identity, ingroup identification, status stability, and common group identity as determinants of intergroup help-giving. *Journal of Personality and Social Psychology*, *97*(5), 823–834. https://doi.org/10.1037/a0015968

Nguyen, A.-M. D., & Benet-Martínez, V. (2013). Biculturalism and Adjustment: A Meta-Analysis. *Journal of Cross-Cultural Psychology*, *44*(1), 122–159. https://doi.org/10.1177/0022022111435097

Nichols, A. L., & Edlund, J. E. (2015). Practicing What We Preach (and Sometimes Study): Methodological Issues in Experimental Laboratory Research. *Review of General Psychology*, *19*(2), 191–202. https://doi.org/10.1037/gpr0000027

Nicolas, G., De La Fuente, M., & Fiske, S. T. (2017). Mind the overlap in multiple categorization: A review of crossed categorization, intersectionality, and multiracial perception. *Group Processes & Intergroup Relations*, *20*(5), 621–631. https://doi.org/10.1177/1368430217708862

Ninković, M. (2020). My Ethnicity is Older than Yours! Delegitimizing other's Ethnic Identity as a Correlate of Inter-ethnic Attitudes. *Proceedings of the XXVI Scientific Conference Empirical*

Studies in Psychology, 132–135. https://empirijskaistrazivanja.org/wp-content/uploads/2021/04/EIP2020_conf_proceedings.pdf#page=132

Ninković, M., & Žeželj, I. (2022). Boundaries to the gateway effect: Perceived dual identity integration shapes the role of biculturals in inter-ethnic relations. *Self and Identity*, *21*(3), 278–298. https://doi.org/10.1080/15298868.2021.1902385

Nir, N., & Halperin, E. (2024). *Political Targeting of Psychological Intergroup Interventions Promoting Social Equality*. https://doi.org/10.21203/rs.3.rs-4551371/v1

Noor, M., Brown, R., Gonzalez, R., Manzi, J., & Lewis, C. A. (2008). On Positive Psychological Outcomes: What Helps Groups With a History of Conflict to Forgive and Reconcile With Each Other? *Personality and Social Psychology Bulletin*, *34*(6), 819–832. https://doi.org/10.1177/0146167208315555

Noor, M., Brown, R., Taggart, L., Fernandez, A., & Coen, S. (2010). Intergroup Identity Perceptions and their Implications for Intergroup Forgiveness: The Common Ingroup Identity Model and its efficacy in the field. *The Irish Journal of Psychology*, *31*(3–4), 151–170. https://doi.org/10.1080/03033910.2010.10446332

Oakes, P. J., Turner, J. C., & Haslam, S. A. (1991). Perceiving people as group members: The role of fit in the salience of social categorizations. *British Journal of Social Psychology*, *30*(2), 125–144. https://doi.org/10.1111/j.2044-8309.1991.tb00930.x

Obradović, S. (2016). Don't forget to remember: Collective memory of the Yugoslav wars in present-day Serbia. *Peace and Conflict: Journal of Peace Psychology*, *22*(1), 12–18. https://doi.org/10.1037/pac0000144

O'Brien, T. C., Leidner, B., & Tropp, L. R. (2018). Are they for us or against us? How intergroup metaperceptions shape foreign policy attitudes. *Group Processes & Intergroup Relations*, *21*(6), 941–961. https://doi.org/10.1177/1368430216684645

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, *45*(4), 867–872. https://doi.org/10.1016/j.jesp.2009.03.009

Organization for Security and Co-operation in Europe [OSCE]. (2022). *History Teaching Materials on 1992- 1995 in Bosnia and Herzegovina: Building Trust or Deepening Divides?* Organization for Security and Co-operation in Europe [OSCE].

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. https://doi.org/10.1136/bmj.n71

Paluck, E. L., Green, S. A., & Green, D. P. (2019). The contact hypothesis re-evaluated. *Behavioural Public Policy*, *3*(02), 129–158. https://doi.org/10.1017/bpp.2018.25

Paluck, E. L., Porat, R., Clark, C. S., & Green, D. P. (2021). Prejudice Reduction: Progress and Challenges. *Annual Review of Psychology*, *72*(1), 533–560. https://doi.org/10.1146/annurev-psych-071620-030619

Pedersen, A., Griffiths, B., & Watt, S. E. (2008). Attitudes toward Out-groups and the perception of consensus: All feet do *not* wear one shoe. *Journal of Community & Applied Social Psychology*, *18*(6), 543–557. https://doi.org/10.1002/casp.964

Peetz, J., Gunn, G. R., & Wilson, A. E. (2010). Crimes of the Past: Defensive Temporal Distancing in the Face of Past In-Group Wrongdoing. *Personality and Social Psychology Bulletin*, *36*(5), 598–611. https://doi.org/10.1177/0146167210364850

Petrović, N. (2017). Human potential for reconciliation: An attempt at the construction of the appropriate scale in Balkans. *Balkan Social Science Review*, *9*(9), 47–69.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, *49*, 65–85. https://doi.org/10.1146/annurev.psych.49.1.65

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–783. https://doi.org/10.1037/0022-3514.90.5.751

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, *38*(6), 922–934. https://doi.org/10.1002/ejsp.504

Pfafferott, I., & Brown, R. (2006). Acculturation preferences of majority and minority adolescents in Germany in the context of society and family. *International Journal of Intercultural Relations*, *30*(6), 703–717. https://doi.org/10.1016/j.ijintrel.2006.03.005

Plaut, V. C., Thomas, K. M., Hurd, K., & Romano, C. A. (2018). Do Color Blindness and Multiculturalism Remedy or Foster Discrimination and Racism? *Current Directions in Psychological Science*, *27*(3), 200–206. https://doi.org/10.1177/0963721418766068

Premachandra, B., & Lewis, N. A. (2022). Do We Report the Information That Is Necessary to Give Psychology Away? A Scoping Review of the Psychological Intervention Literature 2000–2018. *Perspectives on Psychological Science*, *17*(1), 226–238. https://doi.org/10.1177/1745691620974774

Psychosocial Innovation Network [PIN]. (2020). *Učinkovitost programa "Jačanje otpornosti mladih na radikalizaciju i nasilni ekstremizam (BYRVE)."* Psychosocial Innovation Network. https://psychosocialinnovation.net/wp-content/uploads/2021/04/Research-report_Endline-Study_Final_SR.pdf

Qin, X. (2023). Sample size and power calculations for causal mediation analysis: A Tutorial and Shiny App. *Behavior Research Methods*, *56*(3), 1738–1769. https://doi.org/10.3758/s13428-023-02118-0

R Core Team. (2023). *R: A Language and Environment for Statistical Computing* (Version 4.4.1) [Computer software]. https://www.R-project.org

Reddy, G., & Amer, A. (2023). Precarious engagements and the politics of knowledge production: Listening to calls for reorienting hegemonic social psychology. *British Journal of Social Psychology*, *62*(S1), 71–94. https://doi.org/10.1111/bjso.12609

Reimer, N. K., Hughes, J., Blaylock, D., Donnelly, C., Wölfer, R., & Hewstone, M. (2022). Shared education as a contact-based intervention to improve intergroup relations among adolescents in postconflict Northern Ireland. *Developmental Psychology*, *58*(1), 193–208. https://doi.org/10.1037/dev0001274

Richeson, J. A., & Trawalter, S. (2005). On the Categorization of Admired and Disliked Exemplars of Admired and Disliked Racial Groups. *Journal of Personality and Social Psychology*, *89*(4), 517–530. https://doi.org/10.1037/0022-3514.89.4.517

Rios, K., Sosa, N., & Osborn, H. (2018). An experimental approach to Intergroup Threat Theory: Manipulations, moderators, and consequences of realistic vs. symbolic threat. *European*

Review of Social Psychology, *29*(1), 212–255. https://doi.org/10.1080/10463283.2018.1537049

Ruggeri, K., Stock, F., Haslam, S. A., Capraro, V., Boggio, P., Ellemers, N., Cichocka, A., Douglas, K. M., Rand, D. G., Van Der Linden, S., Cikara, M., Finkel, E. J., Druckman, J. N., Wohl, M. J. A., Petty, R. E., Tucker, J. A., Shariff, A., Gelfand, M., Packer, D., … Willer, R. (2024). A synthesis of evidence for policy from behavioural science during COVID-19. *Nature*, *625*(7993), 134–147. https://doi.org/10.1038/s41586-023-06840-9

Saguy, T., Schori-Eyal, N., Hasan-Alih, S., Sobol, D., & Dovidio, J. F. (2016). The irony of harmony: Past and new development. In L. Vezzali & S. Stathi (Eds.), *Intergroup Contact Theory: Recent developments and future directions* (pp. 53–71). Routledge.

Sandžak Press. (2024). *Direktorka Vrtića – Naš interni pravilnik Vrtića zabranjuje hidžab!* https://sandzakpress.net/direktorka-vrtica-nas-interni-pravilnik-vrtica-zabranjuje-hidzab/

Schmader, T., Croft, A., Whitehead, J., & Stone, J. (2013). A Peek Inside the Targets' Toolbox: How Stigmatized Targets Deflect Discrimination by Invoking a Common Identity. *Basic and Applied Social Psychology*, *35*(1), 141–149. https://doi.org/10.1080/01973533.2012.746615

Schmid, K., Ramiah, A. A., & Hewstone, M. (2014). Neighborhood Ethnic Diversity and Trust: The Role of Intergroup Contact and Perceived Threat. *Psychological Science*, *25*(3), 665–674. https://doi.org/10.1177/0956797613508956

Schubert, T. W., & Otten, S. (2002). Overlap of Self, Ingroup, and Outgroup: Pictorial Measures of Self-Categorization. *Self and Identity*, *1*(4), 353–376. https://doi.org/10.1080/152988602760328012

Sherif, M., & Sherif, C. W. (1979). Research on intergroup relations. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations*. Brooks Cole Publishing.

Shi, Y., Dang, J., Zheng, W., & Liu, L. (2017). Dual Identity and Prejudice: The Moderating Role of Group Boundary Permeability. *Frontiers in Psychology*, *8*. https://doi.org/10.3389/fpsyg.2017.00195

Smith, J. R., & Louis, W. R. (2008). Do as we say *and* as we do: The interplay of descriptive and injunctive group norms in the attitude–behaviour relationship. *British Journal of Social Psychology*, *47*(4), 647–666. https://doi.org/10.1348/014466607X269748

Spears, R., Doosje, B., & Ellemers, N. (1997). Self-Stereotyping in the Face of Threats to Group Status and Distinctiveness: The Role of Group Identification. *Personality and Social Psychology Bulletin*, *23*(5), 538–553. https://doi.org/10.1177/0146167297235009

Statistical Office of the Republic of Serbia. (2023). *2022 Census of population, households and dwellings: Ethnicity data by municipalities and cities [Popis stanovništva, domaćinstava i stanova 2022. Nacionalna pripadnost podaci po opštinama i gradovima]*. Statistical Office of the Republic of Serbia.

Stephan, W., G., Ybarra, O., & Rios, K. (2015). Intergroup threat theory. In T. Nelson B. (Ed.), *Handbook of Prejudice, Stereotyping, and Discrimination* (2nd ed., pp. 255–278). Psychology Press.

Stojanov, J., Razum, J., Zezelj, I., Stantic, M., Bird, G., & Parkinson, B. (2022). *Perceptions of Empathic Norms are Overly Negative in Intergroup Contexts*. https://doi.org/10.31234/osf.io/xj9bv

Stone, C. H., & Crisp, R. J. (2007). Superordinate and Subgroup Identification as Predictors of Intergroup Evaluation in Common Ingroup Contexts. *Group Processes & Intergroup Relations*, *10*(4), 493–513. https://doi.org/10.1177/1368430207081537

Storz, N., Martinović, B., Maloku, E., & Žeželj, I. (2022). Can 'we' share the contested territory with 'them'? Shared territorial ownership perceptions and reconciliation intentions in Kosovo. *British Journal of Social Psychology*, *61*(2), 569–586. https://doi.org/10.1111/bjso.12497

Storz, N., Martinovic, B., Verkuyten, M., Žeželj, I., Psaltis, C., & Roccas, S. (2020). Collective psychological ownership and reconciliation in territorial conflicts. *Journal of Social and Political Psychology*, *8*(1), 404–425. https://doi.org/10.5964/jspp.v8i1.1145

Swami, V., Voracek, M., Stieger, S., Tran, U. S., & Furnham, A. (2014). Analytic thinking reduces belief in conspiracy theories. *Cognition*, *133*(3), 572–585. https://doi.org/10.1016/j.cognition.2014.08.006

Szekeres, H., Lantos, N. A., Faragó, L., Nyúl, B., & Kende, A. (2024). When the shoe does not fit: The role of perspective-taking orientation in a perspective-taking prejudice reduction intervention. *Journal of Community & Applied Social Psychology*, *34*(2), e2785. https://doi.org/10.1002/casp.2785

Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information*, *13*(2), 65–93. https://doi.org/10.1177/053901847401300204

Tajfel, H. (1982). Social Psychology of Intergroup Relations. *Annual Review of Psychology*, *33*(1), 1–39. https://doi.org/10.1146/annurev.ps.33.020182.000245

Tajfel, H., & Turner, J. (1985). The Social identity theory of intergroup behavior. In W. G. Austin & S. Worchel (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations*. Brooks Cole Publishing.

Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2009). Intergroup Trust in Northern Ireland. *Personality and Social Psychology Bulletin*, *35*(1), 45–59. https://doi.org/10.1177/0146167208325004

Telzer, E. H., Ichien, N., & Qu, Y. (2015). The ties that bind: Group membership shapes the neural correlates of in-group favoritism. *NeuroImage*, *115*, 42–51. https://doi.org/10.1016/j.neuroimage.2015.04.035

Todd, A. R., & Galinsky, A. D. (2014). Perspective-Taking as a Strategy for Improving Intergroup Relations: Evidence, Mechanisms, and Qualifications. *Social and Personality Psychology Compass*, *8*(7), 374–387. https://doi.org/10.1111/spc3.12116

Tropp, L. R., & Wright, S. C. (2001). Ingroup Identification as the Inclusion of Ingroup in the Self. *Personality and Social Psychology Bulletin*, *27*(5), 585–600. https://doi.org/10.1177/0146167201275007

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: Self-categorization theory*. B. Blackwell.

Turner, J. C., & Reynolds, K. J. (2012). Self-Categorization Theory. In P. Van Lange, A. Kruglanski W., & T. E. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 399–417). SAGE.

Ufkes, E. G., Calcagno, J., Glasford, D. E., & Dovidio, J. F. (2016). Understanding how common ingroup identity undermines collective action among disadvantaged-group members. *Journal of Experimental Social Psychology*, *63*, 26–35. https://doi.org/10.1016/j.jesp.2015.11.006

Urada, D., Stenstrom, D. M., & Miller, N. (2007). Crossed categorization beyond the two-group model. *Journal of Personality and Social Psychology*, *92*(4), 649–664. https://doi.org/10.1037/0022-3514.92.4.649

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Haslam, S. A., Jetten, J., … Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, *4*(5), 460–471. https://doi.org/10.1038/s41562-020-0884-z

Većkalov, B., Gligorić, V., & Petrović, M. B. (2024). No evidence that priming analytic thinking reduces belief in conspiracy theories: A Registered Report of high-powered direct replications of Study 2 and Study 4 from. *Journal of Experimental Social Psychology*, *110*, 104549. https://doi.org/10.1016/j.jesp.2023.104549

Verkuyten, M. (2006). Multicultural recognition and ethnic minority rights: A social identity perspective. *European Review of Social Psychology*, *17*(1), 148–184. https://doi.org/10.1080/10463280600937418

Verkuyten, M., & Martinovic, B. (2012). Social Identity Complexity and Immigrants' Attitude Toward the Host Nation: The Intersection of Ethnic and Religious Group Identification. *Personality and Social Psychology Bulletin*, *38*(9), 1165–1177. https://doi.org/10.1177/0146167212446164

Verkuyten, M., Thijs, J., & Sierksma, J. (2014). Majority Children's Evaluation of Acculturation Preferences of Immigrant and Emigrant Peers. *Child Development*, *85*(1), 176–191. https://doi.org/10.1111/cdev.12111

Vollhardt, J. R. (2013). "Crime against Humanity" or "Crime against Jews"? Acknowledgment in Construals of the Holocaust and Its Importance for Intergroup Relations. *Journal of Social Issues*, *69*(1), 144–161. https://doi.org/10.1111/josi.12008

Wakefield, J. R. H., Hopkins, N., Cockburn, C., Shek, K. M., Muirhead, A., Reicher, S., & Van Rijswijk, W. (2011). The Impact of Adopting Ethnic or Civic Conceptions of National Belonging for Others' Treatment. *Personality and Social Psychology Bulletin*, *37*(12), 1599–1610. https://doi.org/10.1177/0146167211416131

Waldzus, S., Mummendey, A., Wenzel, M., & Weber, U. (2003). Towards tolerance: Representations of superordinate categories and perceived ingroup prototypicality. *Journal of Experimental Social Psychology*, *39*(1), 31–47. https://doi.org/10.1016/S0022-1031(02)00507-3

Wang, Y.-W., Davidson, M. M., Yakushko, O. F., Savoy, H. B., Tan, J. A., & Bleier, J. K. (2003). The Scale of Ethnocultural Empathy: Development, validation, and reliability. *Journal of Counseling Psychology*, *50*(2), 221–234. https://doi.org/10.1037/0022-0167.50.2.221

White, F. A., Borinca, I., Vezzali, L., Reynolds, K. J., Blomster Lyshol, J. K., Verrelli, S., & Falomir-Pichastor, J. M. (2021). Beyond direct contact: The theoretical and societal relevance of indirect contact for improving intergroup relations. *Journal of Social Issues*, *77*(1), 132–153. https://doi.org/10.1111/josi.12400

Williams, D. (2023). The case for partisan motivated reasoning. *Synthese*, *202*(3), 89. https://doi.org/10.1007/s11229-023-04223-1

Wirtz, C., & Doosje, B. (2013). Reactions to threatening critical messages from minority group members with shared or distinct group identities. *European Journal of Social Psychology*, *43*(1), 50–61. https://doi.org/10.1002/ejsp.1910

Witkowska, M., Dołżycka, J., Suitner, C., & Formanowicz, M. (2024). The Grammar of Persuasion: A Meta-Analytic Review Disconfirming the Role of Nouns as Linguistic Cues of Subsequent Behavior. *Journal of Language and Social Psychology*, 0261927X241234845. https://doi.org/10.1177/0261927X241234845

Wohl, M. J. A., & Branscombe, N. R. (2005). Forgiveness and Collective Guilt Assignment to Historical Perpetrator Groups Depend on Level of Social Category Inclusiveness. *Journal of Personality and Social Psychology*, *88*(2), 288–303. https://doi.org/10.1037/0022-3514.88.2.288

Žeželj, I., & Pratto, F. (2017). What identities in the present may mean for the future of the Western Balkans. In F. Pratto, I. Žeželj, E. Maloku, V. Turjačanin, & M. Branković (Eds.), *Shaping social identities after violent conflict* (pp. 159–188). Palgrave Macmillan.

Zhang, W., Liu, Y., Dong, Y., He, W., Yao, S., Xu, Z., & Mu, Y. (2023). How we learn social norms: A three-stage model for social norm learning. *Frontiers in Psychology*, *14*, 1153809. https://doi.org/10.3389/fpsyg.2023.1153809

Zhou, S., Page-Gould, E., Aron, A., Moyer, A., & Hewstone, M. (2019). The Extended Contact Hypothesis: A Meta-Analysis on 20 Years of Research. *Personality and Social Psychology Review*, *23*(2), 132–160. https://doi.org/10.1177/1088868318762647

8. Appendices

Appendix A: Search strings for the systematic literature review

Web of science

String

#1 ((AB=(identit*)) OR TI=(identit*)) OR AK=(identit*)
#2 (((((AB=(experiment*)) OR TI=(experiment*)) OR AK=(experiment*)) OR AB=(replicat*)) OR TI=(replicat*)) OR AK=(replicat*)
#3 ((AB=(intergroup)) OR TI=(intergroup)) OR AK=(intergroup)
#1 AND #2 AND #3

Refine by:

- Document types (articles)
- WoS Categories (Psychology Social; Psychology Multidisciplinary; Political Science; Psychology Applied; Psychology Experimental; Social Sciences Interdisciplinary; Social Issues; Ethnic Studies; Psychology)
- Research Area (Psychology; Social Sciences Other Topics; Social Issues; Ethnic Studies)
- Languages (English) [**BCMS languages not included as options*]

Query link https://www.webofscience.com/wos/woscc/summary/deb87e5f-2a29-482d-b325-7141fcf6f123-346e7baa/relevance/1

ScienceDirect

Search in: Title, abstract, or author-specified keywords

String

(Identity OR identities)
AND (experiment OR experimental OR experimentally OR replicate OR replication)
AND (intergroup)

Refine by:

- Article type (research article)
- Subject areas (psychology, social sciences)

Query link
https://www.sciencedirect.com/search?tak=identity%20AND%20%28experiment%20OR%20experimental%20OR%20experimentally%20OR%20replicate%20OR%20replication%29%20AND%20%28intergroup%20OR%20intergroup%20OR%20intergroup%29&articleTypes=FLA&subjectAreas=3200%2C3300

SCOPUS

String

TITLE-ABS-KEY (identity)
AND TITLE-ABS-KEY (experimen* OR replicat*)
AND TITLE-ABS-KEY (intergroup)
AND (LIMIT-TO (SUBJAREA , "PSYC") OR LIMIT-TO (SUBJAREA , "SOCI"))
AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Bosnian"))
[other BCMS languages are not included as options]

Appendix B: Dual-identity interventions used in pilot experiment

Ingroup norm intervention

Original (Serbian)

Istraživanje: većina Srba vidi Bošnjake iz Srbije jednako Bošnjacima i građanima Srbije

Kako Srbi vide bošnjačku manjinu u Srbiji? Novo istraživanje utvrdilo je da većina Srba smatra da Bošnjaci mogu istovremeno da se osećaju kao deo svoje etničke grupe i kao građani Srbije.

U studiji koju su vodili profesor Mladen Jevtović sa Fakulteta političkih nauka u Beogradu i dr Nedim Jahdadić sa Filozofskog fakulteta u Novom Sadu ispitani su stavovi građana Srbije prema bošnjačkoj manjini u Srbiji. Ispitan je reprezentativni uzorak od 1043 punoletna građana Srbije koji za sebe kažu da su srpske nacionalnosti i pravoslavne veroispovesti. Ovo je jedna od najopsežnijih studija ovog tipa do sada. Rezultati istraživanja daju zanimljive uvide o tome kako Srbi vide bošnjačku manjinu u Srbiji. Nasuprot uvreženom mišljenju i slici koje pojedini mediji plasiraju, 83% ispitanika smatra Bošnjake iz Srbije bliskim sebi, ukazujući na dosta sličnosti između dva naroda. Oni veruju da Bošnjaci iz Srbije vide sebe u jednakoj meri kao Bošnjake i kao građane Srbije i ne smatraju da postoji potreba da odaberu jedan od ova dva identiteta.

Na pitanje kako misle da je moguće pomiriti dva identiteta, jedna učesnica je odgovorila: „Bošnjačka kultura i religija jesu drugačije od naših, ali su oni naši sugrađani koji uživaju jednake obaveze i prava kao i mi. Žive u Srbiji, školuju se, rade, leče se u Srbiji – verujem da sve to doprinosi njihovoj vezanosti za našu zemlju."

Dr Jahdadić sa Filozofskog fakulteta u Novom Sadu objašnjava rezultate istraživanja. „Građani Srbije opažaju identitet srpskih Bošnjaka kao složen, odnosno kao da ima dve komponente: građansku, koja je vezana za činjenicu da su državljani Srbije, i etničku koja je vezana za činjenicu da pripadaju bošnjačkoj zajednici. Dok izvestan procenat Srba smatra da je etnički identitet istaknutiji, naše istraživanje otkriva da „tiha većina" zapravo vidi dva identiteta kao ravnopravna i da među njima ne vide kontradikcije.

Profesor Jevtović koji je vodio istraživački tim dodaje: „Ovi podaci su dragoceno svedočanstvo o tome kako Srbi vide zajednicu Bošnjaka u Srbiji i njihov identitet u ovom trenutku i istorijskom kontekstu."

Translated (English)

Research: Majority of Serbs See Bosniaks in Serbia Equally as Bosniaks and Serbian Citizens

How do Serbs perceive the Bosniak minority in Serbia? A new study has found that most Serbs believe Bosniaks can simultaneously feel part of their ethnic group and as citizens of Serbia.

The study, led by Professor Mladen Jevtović from the Faculty of Political Sciences in Belgrade and Dr. Nedim Jahdadić from the Faculty of Philosophy in Novi Sad, examined the attitudes of Serbian citizens toward the Bosniak minority in Serbia. A representative sample of 1,043 adult Serbian citizens, identifying as ethnic Serbs and Orthodox Christians, was surveyed. This is one of the most comprehensive studies of its kind to date. The findings provide interesting insights into how Serbs view the Bosniak minority in Serbia. Contrary to common assumptions and media portrayals, 83% of respondents perceive Bosniaks in Serbia as close to themselves, highlighting significant similarities between the two groups. They believe that Bosniaks in Serbia see themselves equally as Bosniaks and Serbian citizens and do not feel the need to choose between these two identities.

When asked how they think these two identities can be reconciled, one participant responded: “Bosniak culture and religion are different from ours, but they are our fellow citizens who enjoy the same obligations and rights as we do. They live in Serbia, go to school, work, and receive healthcare in Serbia—I believe all of this contributes to their connection to our country.”

Dr. Jahdadić from the Faculty of Philosophy in Novi Sad explained the study’s results: “Serbian citizens perceive the identity of Serbian Bosniaks as dual, consisting of two components: a civic identity tied to their status as Serbian citizens and an ethnic identity tied to their belonging to the Bosniak community. While a certain percentage of Serbs believe the ethnic identity is more prominent, our research reveals that the 'silent majority' actually views these two identities as equal and does not see contradictions between them.”

Professor Jevtović, who led the research team, added: “This data is a valuable testimony to how Serbs currently perceive the Bosniak community in Serbia and their identity within this historical context.”

Outgroup experience intervention

Original (Serbian)

Istraživanje: većina Bošnjaka u Srbiji sebe vidi jednako Bošnjacima i građanima Srbije

Kako se Bošnjaci nose sa dilemom između njihovog bošnjačkog i srpskog identiteta? Novo istraživanje u Sandžaku utvrdilo je da većina Bošnjaka iz Srbije ne želi da bira između ta dva.

U studiji koju su vodili profesor Mladen Jevtović sa Fakulteta političkih nauka u Beogradu i dr Nedim Jahdadić sa Filozofskog fakulteta u Novom Sadu ispitan je reprezentativni uzorak 1043 punoletna Bošnjaka koji imaju državljanstvo Srbije. Ovo je jedna od najopsežnijih studija ove etničke manjine do sada. Rezultati istraživanja daju zanimljive uvide o tome kako Bošnjaci u Srbiji vide svoj odnos prema Srbiji i svoj identitet kao građana Srbije. Nasuprot uvreženom mišljenju i slici koju pojedini mediji plasiraju, 83% bošnjačkih ispitanika tvrdi da oseća bliskost prema državi Srbiji i njenim građanima, i ukazuje na sličnosti između dva naroda. Većina Bošnjaka u Srbiji vidi sebe u jednakoj meri kao Bošnjake i kao građane Srbije i ne smatra da treba da bira između ta dva identiteta.

Na pitanje kako je moguće pomiriti ta dva identiteta, jedna učesnica je odgovorila: “S jedne strane, naša zajednica, kultura, religija – to je sve bošnjačko. S druge strane, živimo u Srbiji, školujemo se, radimo, lečimo se u Srbiji – to ne možemo da ignorišemo.”

Dr Jahdadić sa Filozofskog fakulteta u Novom Sadu objašnjava rezultate istraživanja. “Identitet srpskih Bošnjaka ima dve glavne komponente: njihov građanski identitet vezan je za činjenicu da su državljani Srbije, a njihov etnički identitet vezan je za činjenicu da pripadaju bošnjačkoj zajednici. Dok je izvestan procenat Bošnjaka u Srbiji odlučio da ojačava svoj bošnjački identitet na račun ovog drugog, naše istraživanje otkriva da je za “tihu većinu” zapravo moguće da se oni pomire I da među njima ne vide kontradikcije.”

Profesor Jevtović koji je vodio istraživački tim dodaje: “Ovi podaci su dragoceno svedočanstvo o zajednici Bošnjaka u Srbiji i razvoju njihovog identiteta u ovom trenutku i istorijskom kontekstu.”

Translated (English)

Research: Majority of Bosniaks in Serbia See Themselves Equally as Bosniaks and Serbian Citizens

How do Bosniaks reconcile their Bosniak and Serbian identities? A new study conducted in the Sandžak region has found that most Bosniaks in Serbia do not feel the need to choose between the two.

The study, led by Professor Mladen Jevtović from the Faculty of Political Sciences in Belgrade and Dr. Nedim Jahdadić from the Faculty of Philosophy in Novi Sad, surveyed a representative sample of 1,043 adult Bosniaks with Serbian citizenship. This is one of the most comprehensive studies of this ethnic minority to date. The findings provide fascinating insights into how Bosniaks in Serbia perceive their relationship with Serbia and their identity as Serbian citizens. Contrary to common stereotypes and media portrayals, 83% of Bosniak respondents reported feeling a sense of closeness to the state of Serbia and its citizens, highlighting similarities between the two groups. Most Bosniaks in Serbia see themselves equally as Bosniaks and Serbian citizens and do not feel compelled to choose between these identities.

When asked how these two identities can be reconciled, one participant responded: "On one hand, our community, culture, and religion—all of that is Bosniak. On the other hand, we live in Serbia, go to school, work, and receive healthcare in Serbia—we cannot ignore that."

Dr. Jahdadić from the Faculty of Philosophy in Novi Sad explained the study's findings: "The identity of Serbian Bosniaks has two main components: their civic identity tied to being Serbian citizens and their ethnic identity tied to belonging to the Bosniak community. While a certain percentage of Bosniaks in Serbia have chosen to strengthen their Bosniak identity at the expense of the other, our research reveals that for the 'silent majority,' it is actually possible to harmonize the two without perceiving them as contradictory."

Professor Jevtović, who led the research team, added: "This data is a valuable testament to the Bosniak community in Serbia and the development of their identity within this historical and social context."

Appendix C: Sensitivity analysis – inferential analyses on normalized variables, pilot experiment

Table C1

Mean differences for plausibility assessment and dual identity perception on normalized variables – pilot experiment

	Condition	N	M	SD	Mean difference [95%CI]	*t*(df)
Plausibility	Ingroup norm	94	-0.08	0.91	-0.13 [-0.41, 0.14]	-0.96 (185)
	Outgroup experience	93	0.05	0.97		
Dual identity perception	Ingroup norm	74	-0.06	1.04	-0.12 [-0.44, 0.22]	-0.74 (146)
	Outgroup experience	74	0.06	0.94		

Table C2

Intercorrelations between normalized variables, split by experimental condition – pilot experiment

	Ideological orientation	Ethnic identification	Perspective taking	Threat perception	Plausibility	Dual identity perception
Ideological orientation		.51*** [.37 .62]	-.42*** [-.55,-.27]	.55*** [.42 .66]	-.18 [-.34, .00]	-.16 [-.34 .03]
Ethnic identification	.51*** [.37 .62]		-.13 [-.3 .04]	.29** [.12 .44]	.12 [-.05 .29]	.00 [-.19 .19]
Perspective taking	-.45*** [-.57,-.3]	-.30** [-.45, -.14]		-.49*** [-.61,-.34]	.31** [.15 .46]	.25* [.06 .42]
Threat perception	.43*** [.28 .56]	.27** [.1, .42]	-.44*** [-.57,-.29]		**-.46*** [-.58,-.31]**	-.47*** [-.61,-.31]
Plausibility	.00 [-.17 .17]	-.03 [-.2, .14]	.02 [-.15 .19]	**-.22* [-.38,-.05]**		**.51*** [.36 .64]**
Dual identity perception	-.40*** [-.55,-.22]	-.25* [-.42, -.06]	.14 [-.06 .32]	-.43*** [-.57,-.25]	**.09 [-.11 .27]**	

Note. 90% confidence intervals are given in brackets. Bolded are the correlations that differ between the conditions.
Note. ***$p < .001$, **$p < .01$, *$p < .05$

Table C3

Predictors of plausibility assessment on normalized variables – pilot experiment

	step 0			**step 1**			**step 2**			**step 3**			**step 4**		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	1.41	[-0.07, 2.89]		1.41	[-0.07, 2.89]		0.74	[-0.70, 2.18]		0.77	[-0.66, 2.20]		0.76	[-0.67, 2.19]	-0.09
Age	-0.07	[-0.13, 0.00]	-0.15	-0.07*	[-0.14, -0.00]	-0.16	-0.04	[-0.10, 0.03]	-0.09	-0.04	[-0.10, 0.03]	-0.09	-0.04	[-0.10, 0.03]	-0.06
Gender (1 = female)	-0.05	[-0.35, 0.26]	-0.04	-0.05	[-0.36, 0.25]	-0.03	-0.09	[-0.41, 0.22]	-0.05	-0.12	[-0.43, 0.19]	-0.06	-0.11	[-0.42, 0.20]	0.07
Religiosity	0.03	[-0.04, 0.10]	0.04	0.03	[-0.04, 0.10]	0.06	0.04	[-0.04, 0.11]	0.07	0.03	[-0.04, 0.11]	0.07	0.04	[-0.04, 0.11]	0.10
Intervention type (OG experience vs. IG norm)				0.16	[-0.11, 0.43]	0.08	0.19	[-0.06, 0.45]	0.10	0.2	[-0.06, 0.45]	0.10	0.2	[-0.06, 0.45]	0.02
Ideological orientation							0.00	[-0.19, 0.20]	0.00	0.02	[-0.18, 0.21]	0.02	0.02	[-0.18, 0.21]	0.11
Ethnic identification							0.12	[-0.04, 0.28]	0.12	0.12	[-0.04, 0.28]	0.12	0.11	[-0.05, 0.27]	-0.04
Perspective taking							0.03	[-0.12, 0.19]	0.03	0.03	[-0.12, 0.19]	0.04	-0.04	[-0.24, 0.16]	-0.27
Threat perception							-0.35***	[-0.51, -0.19]	-0.37	-0.23*	[-0.43, -0.02]	-0.23	-0.26*	[-0.47, -0.05]	-0.14
Intervention type * Threat perception										-0.27*	[-0.53, -0.01]	-0.20	-0.19	[-0.49, 0.11]	0.12
Intervention type * Perspective taking													0.17	[-0.12, 0.47]	0.00
F*(df1, df2), *p	**1.45 (3, 183), *p* = .007**			**1.42 (4, 182), *p* = .009**			**4.11 (8, 178), *p* < .001**			**4.18 (9, 177), *p* < .001**			**3.90 (10, 176), *p* < .001**		
R2	**.023**			**.030**			**.158**			**.175**			**.181**		
Δ*F*(df1, df2)				**1.33 (1, 182), *p* = .250**			**6.61 (4, 178), *p* < .001**			**4.16 (1, 177), *p* = .043**			**1.32 (1, 176), *p* =.251**		
ΔR^2				**.007**			**.126**			**.019**			**.006**		

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

Table C4

Predictors of dual identity perception on normalized variables – pilot experiment

	step 0			**step 1**			**step 2**			**step 3**			**step 4**		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	0.17	[-1.62, 1.97]		0.28	[-1.53, 2.09]		-0.49	[-2.15, 1.18]		-0.44	[-2.08, 1.19]		-0.32	[-1.95, 1.30]	
Age	-0.02	[-0.10, 0.06]	-0.04	-0.03	[-0.11, 0.05]	-0.06	0.01	[-0.06, 0.09]	0.03	0.01	[-0.06, 0.09]	0.02	0.01	[-0.07, 0.08]	0.01
Gender (1 = female)	0.41*	[0.07, 0.75]	0.20	0.40*	[0.06, 0.75]	0.20	0.22	[-0.11, 0.55]	0.11	0.21	[-0.11, 0.54]	0.10	0.17	[-0.15, 0.50]	0.09
Religiosity	0.01	[-0.07, 0.09]	0.03	0.01	[-0.07, 0.09]	0.02	0.05	[-0.04, 0.13]	0.09	0.05	[-0.03, 0.13]	0.10	0.05	[-0.03, 0.13]	0.10
Intervention type (Outgroup experience vs. Ingroup norm)				0.14	[-0.18, 0.47]	0.07	0.16	[-0.13, 0.45]	0.08	0.13	[-0.16, 0.42]	0.07	0.11	[-0.18, 0.40]	0.06
Ideological orientation							-0.1	[-0.31, 0.12]	-0.10	-0.29*	[-0.55, -0.02]	-0.29	-0.29*	[-0.55, -0.03]	-0.29
Ethnic identification							-0.01	[-0.19, 0.17]	-0.01	-0.01	[-0.19, 0.17]	-0.01	-0.05	[-0.23, 0.13]	-0.05
Perspective taking							-0.06	[-0.23, 0.10]	-0.07	-0.08	[-0.24, 0.09]	-0.08	-0.10	[-0.26, 0.07]	-0.10
Threat perception							-0.36***	[-0.54, -0.18]	-0.37	-0.36***	[-0.54, -0.18]	-0.37	-0.35***	[-0.52, -0.17]	-0.36
Plausibility							0.19*	[0.03, 0.36]	0.18	0.21*	[0.05, 0.37]	0.20	0.05	[-0.18, 0.28]	0.04
Intervention type * Ideological orientation										0.34*	[0.05, 0.63]	0.25	.036*	[0.08, 0.65]	0.27
Intervention type * Plausibility													-0.32*	[0.00, 0.64]	0.22
F*(df1, df2), *p	**2.48 (3, 144), *p* = .064**			**2.04 (4, 143), *p* = .092**			**5.46 (9, 138), *p* < .001**			**5.63 (10, 137), *p* < .001**			**5.59 (11, 136), *p* < .001**		
R^2	**.049**			**.054**			**.263*** **			**.291*** **			**.312*** **		
Δ*F*(df1, df2)				**0.75 (1,143), *p* = .387**			**7.81 (5, 138), *p* < .001**			**5.53 (1, 137), *p* = .020**			**3.99 (1, 136), *p* = .048**		
ΔR^2				**.005**			**.209*** **			**.029***			**.020***		

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

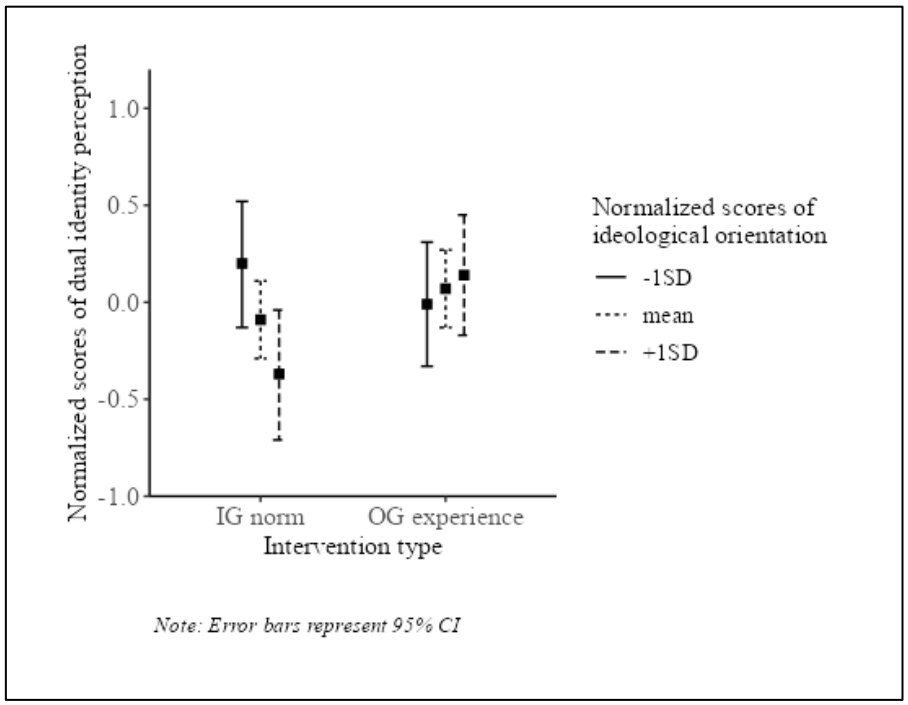


Figure C1. *Interaction between intervention type and ideological orientation on dual identity perception (normalized scores)*

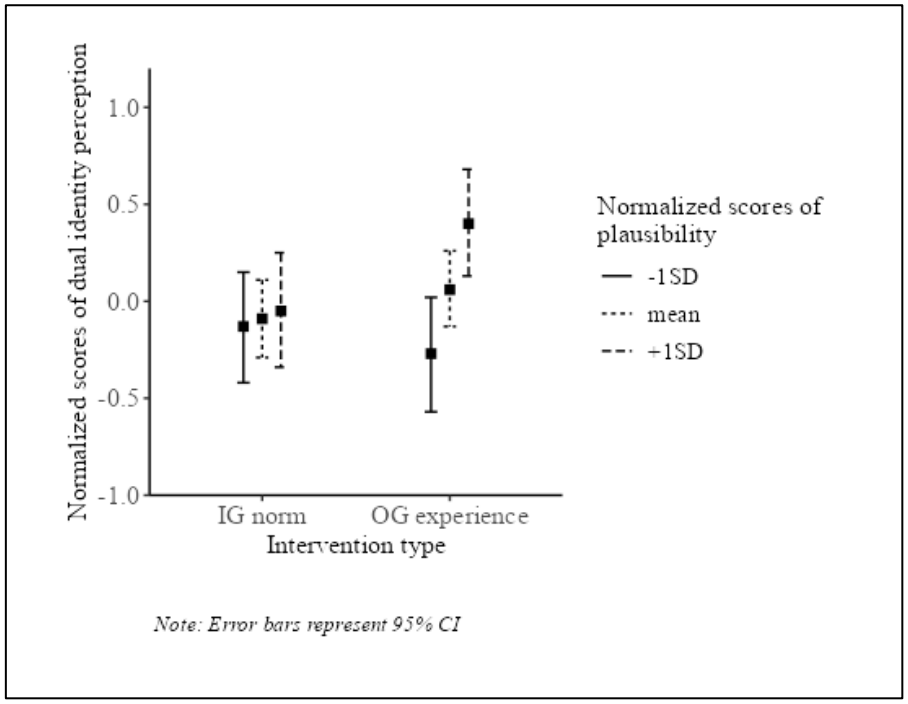


Figure C2. *Interaction between intervention type and plausibility on dual identity perception (normalized scores)*

Appendix D: Intercorrelation differences between two experimental conditions, pilot experiment

Table D1

Intercorrelations between the variables in pilot experiment, split by experimental condition, with 90% CI

	Ideological orientation	**Ethnic identification**	**Perspective taking**	**Threat perception**	**Plausibility**	**Dual identity perception**
Ideological orientation		.46 [.31, .59]	-.46 [-.59, -.31]	.53 [.39, .64]	-.13 [-.3, .04]	**-.14 [-.33, .05]**
Ethnic identification	.44 [.30, .57]		-.16 [-.32, .01]	.29 [.13, .44]	.07 [-.11, .23]	-.03 [-.22, .17]
Perspective taking	-.50 [-.62, -.36]	-.30 [-.45, -.13]		-.55 [-.66, -.42]	.32 [.15, .46]	.31 [.13, .48]
Threat perception	.51 [.37, .62]	.22 [.05, .38]	-.49 [-.61, -.34]		**-.50 [-.62, -.36]**	-.52 [-.64, -.36]
Plausibility	.05 [-.12, .22]	-.08 [-.24, .10]	-.03 [-.2, .14]	**-.20 [-.36, -.03]**		**.47 [.31, .61]**
Dual identity perception	**-.54 [-.66, -.39]**	-.21 [-.39, -.02]	.24 [.05, .41]	-.51 [-.64, -.35]	**.05 [-.15, .24]**	

Note. Bolded are the coefficients that significantly differ between the conditions. Higher scores on ideological orientation indicate right-leaning ideological orientation. 90% confidence intervals are given in brackets.

Appendix E: Regression analyses detiails – pilot experiment

Detailed results of the regression analyses in pilot experiment are given in tables E1 and E2.

Table E1

Predictors of plausibility assessment in pilot experiment – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**			**step 3**			**step 4**		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	6.18**	[4.68, 7.68]		6.18**	[4.68, 7.68]		5.46**	[4.00, 6.92]		5.49**	[4.06, 6.92]		5.49**	[4.06, 6.92]	
Age	-0.07	[-0.13, 0.00]	-0.15	-0.07*	[-0.14, -0.00]	-0.16	-0.04	[-0.10, 0.03]	-0.08	-0.04	[-0.10, 0.03]	-0.08	-0.04	[-0.10, 0.03]	-0.08
Gender (1 = female)	-0.09	[-0.40, 0.22]	-0.04	-0.09	[-0.40, 0.22]	-0.04	-0.05	[-0.38, 0.28]	-0.02	-0.09	[-0.41, 0.24]	-0.04	-0.08	[-0.41, 0.25]	-0.04
Religiosity	0.02	[-0.05, 0.09]	0.04	0.02	[-0.05, 0.09]	0.04	0.03	[-0.05, 0.10]	0.05	0.03	[-0.05, 0.10]	0.05	0.03	[-0.05, 0.10]	0.06
Intervention type (OG experience vs. IG norm)				0.14	[-0.14, 0.41]	0.07	0.15	[-0.11, 0.41]	0.08	0.15	[-0.10, 0.41]	0.08	0.15	[-0.10, 0.41]	0.08
Ideological orientation							0.05	[-0.02, 0.12]	0.15	0.05	[-0.02, 0.12]	0.15	0.05	[-0.02, 0.12]	0.15
Ethnic identification							0.01	[-0.11, 0.13]	0.01	0.02	[-0.10, 0.13]	0.03	0.01	[-0.10, 0.13]	0.01
Perspective taking							0.01	[-0.12, 0.14]	0.01	0	[-0.13, 0.13]	0	-0.07	[-0.23, 0.10]	-0.09
Threat perception							-0.31**	[-0.44, -0.18]	-0.43	-0.19*	[-0.34, -0.03]	-0.26	-0.22**	[-0.38, -0.06]	-0.3
Intervention type * Threat perception										-0.26**	[-0.46, -0.07]	-0.25	-0.19	[-0.42, 0.04]	-0.18
Intervention type * Perspective taking													0.16	[-0.09, 0.40]	0.14
F*(df1, df2), *p	**1.32 (3, 183), *p* = .269**			**1.23 (4, 182), *p* = .301**			**4.21 (8, 178), *p* < .001**			**4.65 (9, 177), *p* < .001**			**4.36 (10, 176), *p* < .001**		
R^2 (R^2_{adj})	**.021 (.005)**			**.026 (.005)**			**.159 (.121)**			**.192 (.150)**			**.199 (.153)**		
Δ*F*(df1, df2)				**0.948 (1, 182), *p* = .332**			**7.023 (4, 178), *p* <.001**			**7.059 (1, 177), *p* < .001**			**1.59 (1, 176), *p* = .209**		
ΔR^2				**.005**			**.133**			**.032**			**.007**		

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

Table E2

Predictors of dual identity perception in pilot experiment – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**			**step 3**			**step 4**		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	63.42**	[19.95, 106.89]		66.95**	[23.11, 110.80]		45.17*	[5.60, 84.74]		49.05*	[10.87, 87.23]		52.18**	[13.98, 90.37]	
Age	-0.68	[-2.63, 1.28]	-0.06	-0.94	[-2.95, 1.07]	-0.08	0.22	[-1.60, 2.03]	0.02	0.03	[-1.72, 1.78]	0	-0.08	[-1.83, 1.67]	-0.01
Gender (1 = female)	10.23*	[1.95, 18.52]	0.21	9.90*	[1.60, 18.19]	0.2	4.5	[-3.76, 12.75]	0.09	4.62	[-3.33, 12.58]	0.09	3.76	[-4.23, 11.75]	0.08
Religiosity	-0.05	[-1.97, 1.86]	0.00	-0.15	[-2.07, 1.77]	-0.01	0.83	[-1.10, 2.76]	0.07	0.85	[-1.01, 2.71]	0.07	0.9	[-0.95, 2.75]	0.08
Intervention type (OG experience vs. IG norm)				4.61	[-3.29, 12.50]	0.10	5.61	[-1.35, 12.58]	0.12	4.63	[-2.10, 11.37]	0.1	4.16	[-2.57, 10.89]	0.09
Ideological orientation							-1.04	[-2.85, 0.77]	-0.13	-3.13**	[-5.25, -1.01]	-0.38	-3.19**	[-5.30, -1.08]	-0.39
Ethnic identification							0.45	[-2.59, 3.48]	0.03	0.28	[-2.65, 3.21]	0.02	-0.15	[-3.11, 2.81]	-0.01
Perspective taking							-0.87	[-4.15, 2.40]	-0.05	-1.08	[-4.24, 2.07]	-0.06	-1.42	[-4.59, 1.75]	-0.08
Threat perception							-7.64**	[-11.09, -4.20]	-0.43	-7.24**	[-10.57, -3.92]	-0.41	-7.01**	[-10.33, -3.69]	-0.4
Plausibility							3.11	[-0.85, 7.08]	0.12	3.89*	[0.05, 7.73]	0.15	0.66	[-4.95, 6.27]	0.03
Intervention type * Ideological orientation										3.88**	[1.64, 6.12]	0.35	3.97**	[1.74, 6.20]	0.35
Intervention type * Plausibility													5.93	[-1.61, 13.46]	0.17
F*(df1, df2), *p	**2.72 (3, 144), *p* = .047**			**2.38 (4, 143), *p* = .055**			**6.66 (9, 138), *p* < .001**			**7.64 (10, 137), *p* < .001**			**7.24 (11, 136), *p* < .001**		
R^2 (R^2_{adj})	**.054 (.034)**			**.062 (.036)**			**.303 (.257)**			**.358 (.311)**			**.369 (.318)**		
Δ*F*(df1, df2)				**1.33 (1, 143), *p* = .251**			**9.52 (5, 138), *p* < .001**			**11.76 (1, 137), *p* < .001**			**2.42 (1, 136), *p* = .122**		
ΔR^2				**.008**			**.240**			**.055**			**.011**		

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

Appendix F: Dual-identity interventions and a sham intervention in experiments 1-5

Experiments 1 and 4 (Serbia)

Ingroup norm intervention

Original (Serbian)

Istraživanje: većina Srba vidi Bošnjake iz Srbije jednako Bošnjacima i građanima Srbije

Kako Srbi vide bošnjačku manjinu u Srbiji? Novo istraživanje utvrdilo je da većina Srba smatra da Bošnjaci mogu istovremeno da se osećaju kao deo svoje etničke grupe i kao građani Srbije.

U studiji koju su vodili profesor Mladen Jevtović sa Fakulteta političkih nauka u Beogradu i dr Nedim Jahdadić sa Filozofskog fakulteta u Novom Sadu ispitani su stavovi građana Srbije prema bošnjačkoj manjini u Srbiji. U saradnji sa Republičkim zavodom za statistiku, u toku prošle godine ispitan je reprezentativni uzorak od 2000 punoletnih građana Srbije koji za sebe kažu da su srpske nacionalnosti i pravoslavne veroispovesti. Reprezentativnost uzorka, napominju autori, omogućava da rezultate generalizuju na celokupnu populaciju u Srbiji. Rezultati istraživanja daju zanimljive uvide o tome kako Srbi vide bošnjačku manjinu u Srbiji. Nasuprot uvreženom mišljenju i slici koje pojedini mediji plasiraju, 83% ispitanika smatra Bošnjake iz Srbije bliskim sebi, ukazujući na dosta sličnosti između dva naroda. Oni veruju da Bošnjaci iz Srbije vide sebe u jednakoj meri kao Bošnjake i kao građane Srbije i ne smatraju da postoji potreba da odaberu jedan od ova dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako misle da je moguće pomiriti dva identiteta:

> „Bošnjačka kultura i religija jesu drugačije od naših, ali su oni naši sugrađani koji uživaju jednake obaveze i prava kao i mi." (Jelena, 47 godina, Gornji Milanovac)

> „Baš kao i mi, Bošnjaci žive u Srbiji, školuju se, rade, leče se u Srbiji – verujem da sve to doprinosi njihovoj vezanosti za našu zemlju." (Miroslav, 39 godina, Kikinda)

Dr Jahdadić sa Filozofskog fakulteta u Novom Sadu objašnjava rezultate istraživanja. „Građani Srbije opažaju identitet srpskih Bošnjaka kao složen, odnosno kao da ima dve komponente: građansku, koja je vezana za činjenicu da su državljani Srbije, i etničku koja je vezana za činjenicu da pripadaju bošnjačkoj zajednici. Dok izvestan procenat Srba smatra da je etnički identitet istaknutiji, naše istraživanje otkriva da „tiha većina" zapravo vidi dva identiteta kao ravnopravna i da među njima ne vide kontradikcije.

Profesor Jevtović koji je vodio istraživački tim dodaje: „Ovi podaci su dragoceno svedočanstvo o tome kako Srbi vide zajednicu Bošnjaka u Srbiji i njihov identitet u ovom trenutku i istorijskom kontekstu."

Translated (English)

Research: Most Serbs View Bosniaks in Serbia Equally as Bosniaks and Citizens of Serbia

How do Serbs perceive the Bosniak minority in Serbia? A new study has found that most Serbs believe Bosniaks can simultaneously identify with their ethnic group and as citizens of Serbia.

The study, led by Professor Mladen Jevtović from the Faculty of Political Sciences in Belgrade and Dr. Nedim Jahdadić from the Faculty of Philosophy in Novi Sad, examined the attitudes of Serbian citizens toward the Bosniak minority in Serbia. In collaboration with the Republic Statistical Office, a representative sample of 2,000 adult Serbian citizens who identify as of Serbian nationality and Orthodox faith was surveyed last year. The authors emphasize that the sample's representativeness allows the results to be generalized to Serbia's entire population.

The findings provide intriguing insights into how Serbs view the Bosniak minority in Serbia. Contrary to some widespread opinions and media portrayals, 83% of respondents see Bosniaks in Serbia as close to them, pointing to numerous similarities between the two groups. Respondents believe that Bosniaks in Serbia identify equally as Bosniaks and as Serbian citizens, and do not feel the need to choose between these two identities.

Here are some responses from participants on how they think these two identities can be reconciled:

> **"**Bosniak culture and religion are different from ours, but they are our fellow citizens who enjoy the same rights and responsibilities as we do." (Jelena, 47, Gornji Milanovac)
>
> "Just like us, Bosniaks live in Serbia, go to school, work, and receive healthcare here – I believe all of this strengthens their connection to our country. (Miroslav, 39, Kikinda)

Dr. Jahdadić from the Faculty of Philosophy in Novi Sad explains the research findings:

"Citizens of Serbia perceive the identity of Serbian Bosniaks as complex, with two components: a civic one, tied to their status as Serbian citizens, and an ethnic one, tied to their belonging to the Bosniak community. While a certain percentage of Serbs view ethnic identity as more pronounced, our research reveals that the 'silent majority' actually sees these two identities as equal and finds no contradiction between them."

Professor Jevtović, who led the research team, adds:

"These findings are a valuable testimony to how Serbs perceive the Bosniak community in Serbia and their identity at this point in history."

Outgroup experience intervention

Original (Serbian)

Istraživanje: većina Bošnjaka u Srbiji sebe vidi jednako Bošnjacima i građanima Srbije

Kako se Bošnjaci nose sa dilemom između njihovog bošnjačkog i srpskog identiteta? Novo istraživanje u Sandžaku utvrdilo je da većina Bošnjaka iz Srbije ne želi da bira između ta dva.

U studiji koju su vodili profesor Mladen Jevtović sa Fakulteta političkih nauka u Beogradu i dr Nedim Jahdadić sa Filozofskog fakulteta u Novom Sadu ispitano je kako se Bošnjaci iz Srbije nacionalno identifikuju. U saradnji sa Republičkim zavodom za statistiku, ispitan je reprezentativni uzorak od 1043 punoletna Bošnjaka koji imaju državljanstvo Srbije. Reprezentativnost uzorka, napominju autori, omogućava da rezultate generalizuju na celokupnu populaciju Bošnjaka u Srbiji. Ovo je jedna od najopsežnijih studija ove etničke manjine do sada. Rezultati istraživanja daju zanimljive uvide o tome kako Bošnjaci u Srbiji vide svoj odnos prema Srbiji i svoj identitet kao građana Srbije. Nasuprot uvreženom mišljenju i slici koju pojedini mediji plasiraju, 83% bošnjačkih ispitanika tvrdi da oseća bliskost prema državi Srbiji i njenim građanima, i ukazuje na sličnosti između dva naroda. Većina Bošnjaka u Srbiji vidi sebe u jednakoj meri kao Bošnjake i kao građane Srbije i ne smatra da treba da bira između ta dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako je moguće pomiriti ta dva identiteta:

„S jedne strane, naša zajednica, kultura, religija – to je sve bošnjačko. S druge strane, živimo u Srbiji, školujemo se, radimo, lečimo se u Srbiji – to ne možemo da ignorišemo.” (Lejla, 47 godina, Novi Pazar)

„Naravno, poštujem bošnjačku tradiciju i običaje. Ali isto tako poštujem i Srbiju kao državu - tu sam rođen, tu živim, to je prosto moja država.” (Alen, 39 godina, Priboj)

Dr Jahdadić sa Filozofskog fakulteta u Novom Sadu objašnjava rezultate istraživanja. „Identitet srpskih Bošnjaka ima dve glavne komponente: njihov građanski identitet vezan je za činjenicu da su državljani Srbije, a njihov etnički identitet vezan je za činjenicu da pripadaju bošnjačkoj zajednici. Dok je izvestan procenat Bošnjaka u Srbiji odlučio da ojačava svoj bošnjački identitet na račun ovog drugog, naše istraživanje otkriva da je za „tihu većinu” zapravo moguće da se oni pomire i da među njima ne vide kontradikcije.”

Profesor Jevtović koji je vodio istraživački tim dodaje: „Ovi podaci su dragoceno svedočanstvo o zajednici Bošnjaka u Srbiji i razvoju njihovog identiteta u ovom trenutku i istorijskom kontekstu.”

Translated (English)

Research: Most Bosniaks in Serbia See Themselves Equally as Bosniaks and Citizens of Serbia

How do Bosniaks navigate the dilemma between their Bosniak and Serbian identities? A new study in Sandžak has found that most Bosniaks in Serbia do not feel the need to choose between the two.

The study, led by Professor Mladen Jevtović from the Faculty of Political Sciences in Belgrade and Dr. Nedim Jahdadić from the Faculty of Philosophy in Novi Sad, explored how Bosniaks in Serbia identify themselves nationally. In collaboration with the Republic Statistical Office, a representative sample of 1,043 adult Bosniaks holding Serbian citizenship was surveyed. The authors note that the sample's representativeness allows the findings to be generalized to the entire Bosniak population in Serbia. This is one of the most comprehensive studies of this ethnic minority to date.

The results offer fascinating insights into how Bosniaks in Serbia perceive their relationship with the country and their identity as Serbian citizens. Contrary to some widespread beliefs and media portrayals, 83% of Bosniak respondents expressed a sense of closeness to the state of Serbia and its citizens, highlighting the similarities between the two groups. Most Bosniaks in Serbia view themselves equally as Bosniaks and Serbian citizens and do not feel compelled to choose between these two identities.

Here are some responses from participants on how these two identities can be reconciled:

"On one hand, our community, culture, and religion – all of that is Bosniak. On the other hand, we live in Serbia, go to school, work, and receive healthcare here – we can't ignore that." (Lejla, 47, Novi Pazar)

"Of course, I respect Bosniak traditions and customs. But I also respect Serbia as my country – I was born here, I live here, it's simply my state." (Alen, 39, Priboj)

Dr. Jahdadić from the Faculty of Philosophy in Novi Sad explains the research findings:

"The identity of Bosniaks in Serbia has two main components: their civic identity, tied to their citizenship in Serbia, and their ethnic identity, tied to their belonging to the Bosniak community. While a certain percentage of Bosniaks in Serbia choose to strengthen their Bosniak identity at the expense of the other, our research reveals that for the 'silent majority,' it is indeed possible to reconcile the two without seeing contradictions between them."

Professor Jevtović, who led the research team, adds:

"These findings are a valuable testament to the Bosniak community in Serbia and the development of their identity in this historical moment."

Control condition

Original (Serbian)

Zbog sakupljanja otrova ugrožen poskok

Prema Uredbi o stavljanju pod kontrolu korišćenja i prometa divlje flore i faune zaštićeno je 97 vrsta, među kojima su najbrojnije biljke, ima ih 63.

Ministarstvo zaštite životne sredine stavilo je zabranu na sakupljanje barske perunike, trepljastog, planinskog i rumelijskog kantariona, crne čemerike, ali i medicinske pijavice, šumske kornjače i poskoka. I to na teritoriji cele Srbije, dok u pojedinim delovima zemlje crveno svetlo važi za sakupljanje žaba i puževa. Zbog čega? Do ugrožavanja ovih vrsta, kako za „Politiku" objašnjavaju u Zavodu za zaštitu prirode, došlo je zbog njihovog skupljanja što zbog jela, a što iz medicinskih i komercijalnih razloga. Zato je, prema Uredbi o stavljanju pod kontrolu korišćenja i prometa divlje flore i faune, zaštićeno 97 vrsta, među kojima su najbrojnije biljke – ima ih 63. Zaštićene su još i gljive, određeni lišajevi, neki gmizavci, tri vrste vodozemaca i četiri vrste beskičmenjaka.

„Posledice nestručnog i stihijskog sakupljanja najviše se uočavaju kod stanja populacija životinjskih vrsta pod kontrolom prometa, gde je neselektivno sakupljanje puževa i žaba svih veličina dovelo do nedostatka polno zrelih jedinki i stagnacije njihovih populacija", objašnjavaju u Zavodu za zaštitu prirode i dodaju da su pod kontrolom sakupljanja one gljive koje se ne mogu proizvesti u veštačkim uslovima. A to su vrganj, lisičarka, rujnica...

Uprkos tome što je zaštićena vrsta, Međunarodna unija za zaštitu prirode i Evropska komisija potvrdili su trend smanjenja brojnosti populacije poskoka. Razlog je dugotrajna eksploatacija zbog snabdevanja otrovom, a neselektivni izlov u roku od nekoliko godina preti da dovede do potpunog nestanka ove vrste sa određenih područja naše zemlje.

„Nezakoniti izlov poskoka doveo je do narušavanja uzrasne strukture, kao i smanjenja reprodukcionog potencijala vrste, gustine i populacionih trendova, pa su neophodna dugoročna praćenja ove vrste na teritoriji čitave Srbije," ističu u Zavodu i dodaju da je potrebno razviti sistem praćenja i nastaviti sankcionisanje nelegalnih aktivnosti u saradnji sa inspekcijskim službama zaduženim za ovu oblast.

Ove godine stopirano je i sakupljanje šumskih kornjača. Pored urbanizacije koja preti da ugrozi njeno stanište, stručnjaci upozoravaju da je šumska kornjača u našoj zemlji izložena eksploataciji više nego ijedna druga vrsta gmizavca.

„Višedecenijska unutrašnja trgovina i međunarodni promet jedinkama, ilegalno sakupljanje i trgovina šumskom kornjačom sa područja Srbije predstavljaju izuzetno značajan faktor ugrožavanja ove vrste, a naročito ako se ima u vidu dugo vreme generacije ove vrste," dodaju u Zavodu.

Translated (English)

Due to Venom Collection, the Nose-Horned Viper Is Under Threat

According to the Regulation on Controlling the Use and Trade of Wild Flora and Fauna, 97 species are protected in Serbia, with plants being the most numerous, totaling 63 species.

The Ministry of Environmental Protection has banned the collection of marsh iris, fringed, mountain, and Rumelian St. John's wort, black hellebore, as well as medicinal leeches, forest turtles, and the nose-horned viper. This ban applies across the entire territory of Serbia, while in certain regions, a red light also applies to the collection of frogs and snails. Why? As explained by the Institute for Nature Conservation to *Politika*, these species have been threatened due to their collection for food, medicinal, and commercial purposes. Therefore, the Regulation on Controlling the Use and Trade of Wild Flora and Fauna has placed 97 species under protection, most of which are plants. Additionally, certain mushrooms, lichens, reptiles, three amphibian species, and four invertebrate species are also protected.

"The consequences of unregulated and haphazard collection are most evident in the population status of animal species under trade control. The non-selective collection of snails and frogs of all sizes has led to a lack of sexually mature individuals and stagnation in their populations," the Institute for Nature Conservation explains. They add that certain mushrooms that cannot be cultivated in artificial conditions—such as porcini, chanterelles, and saffron milk caps—are also under collection control.

Despite being a protected species, the International Union for Conservation of Nature (IUCN) and the European Commission have confirmed a declining trend in the population of the nose-horned viper. The primary reason is its prolonged exploitation for venom collection. Non-selective harvesting threatens to completely eliminate this species from certain regions of Serbia within a few years.

"Illegal harvesting of the nose-horned viper has disrupted the age structure and reduced the reproductive potential, population density, and trends of this species. Long-term monitoring across Serbia is essential," the Institute emphasizes, adding that it is necessary to develop a monitoring system and continue punishing illegal activities in collaboration with relevant inspection services.

This year, the collection of forest turtles has also been halted. In addition to urbanization threatening their habitats, experts warn that forest turtles in Serbia are subject to greater exploitation than any other reptile species.

"Decades of domestic trade, international trafficking, illegal collection, and trading of forest turtles from Serbia have been a significant factor in the endangerment of this species, especially considering their long generation time," the Institute concludes.

Experiments 2 and 5 (Serbia)

Ingroup norm intervention

Original (Bosnian)

Istraživanje: većina Bošnjaka vidi Srbe iz Federacije BiH jednako Srbima i Bosancima

Kako Bošnjaci vide srpsku manjinu u FBiH? Novo istraživanje utvrdilo je da većina Bošnjaka smatra da Srbi iz FBiH mogu istovremeno da se osjećaju kao dio svoje etničke grupe i kao Bosanci.

U studiji koju su vodili profesori dr Jasmin Spahić i dr Nedim Jahdadić sa Fakulteta političkih nauka u Sarajevu, ispitani su stavovi građana Federacije BiH prema srpskoj manjini u ovom entitetu. U saradnji sa Agencijom za statistiku BiH ispitan je uzorak od oko 2000 punoljetnih građana FBiH koji za sebe kažu da su bošnjačke nacionalnosti i muslimanske vjeroispovjesti. Reprezentativnost uzorka, napominju autori, omogućava da se rezultati generalizuju na cjelokupnu populaciju Bošnjaka u FBiH. Rezultati istraživanja daju zanimljiv uvid o tome kako Bošnjaci vide srpsku manjinu u Federaciji BiH. Suprotno preovlađujućem mišljenju i slici koju promovišu pojedini mediji, 83% ispitanika smatra Srbe iz Federacije bliskim sebi, te ukazuju na sličnosti između naroda koji žive u FBiH. Oni vjeruju da Srbi iz FBiH vide sebe u jednakoj mjeri kao Srbe i Bosance i ne smatraju da postoji potreba da odaberu jedan od ova dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako misle da je moguće pomiriti dva identiteta:

> „Srpska kultura i religija jesu drugačije od naših, ali su oni naši sugrađani koji uživaju jednake obaveze i prava kao i mi." (Adna, 47 godina, Sarajevo)

> „Baš kao i mi, Srbi žive ovdje, školuju se, rade, liječe se u BiH - vjerujem da sve to doprinosi njihovoj vezanosti za našu zemlju." (Edin, 39 godina, Tuzla)

Dr Jahdadić sa Fakulteta političkih nauka objašnjava rezultate istraživanja: „Bošnjaci iz Federacije BiH opažaju identitet svojih srpskih sugrađana kao složen, odnosno kao da ima dvije komponente: građansku, koja je vezana za činjenicu da su državljani BiH, i etničku, koja je vezana za činjenicu da pripadaju srpskoj zajednici. Dok izvjestan procenat Bošnjaka i dalje smatra da je etnički identitet istaknutiji, naše istraživanje otkriva da „tiha većina" zapravo vidi dva identiteta kao ravnopravna i da među njima ne vide kontradikcije."

Profesor Spahić koji je vodio istraživački tim dodaje: „Ovi podaci su dragoceno svedočanstvo o tome kako Bošnjaci vide zajednicu Srba u FBiH i njihov identitet u ovom trenutku i istorijskom kontekstu."

Translated (English)

Study: Most Bosniaks View Serbs from the Federation of BiH Equally as Serbs and Bosnians

How do Bosniaks perceive the Serbian minority in the Federation of Bosnia and Herzegovina (FBH)? A new study has found that the majority of Bosniaks believe Serbs from FBH can simultaneously feel part of their ethnic group and as Bosnians.

The study, led by Professors Dr. Jasmin Spahić and Dr. Nedim Jahdadić from the Faculty of Political Sciences in Sarajevo, examined the attitudes of FBH citizens toward the Serbian minority in this entity. In collaboration with the BH Agency for Statistics, a sample of approximately 2,000 adult FBH citizens identifying as Bosniaks and Muslims was surveyed. The authors emphasize that the sample's representativeness allows the findings to be generalized to the entire Bosniak population in FBH.

The results provide intriguing insights into how Bosniaks perceive the Serbian minority in FBH. Contrary to prevailing opinions and the narratives promoted by some media outlets, 83% of respondents consider Serbs from FBH to be close to them, pointing out similarities among the people living in FBH. They believe that Serbs in FBH see themselves equally as Serbs and Bosnians and do not feel the need to choose between these two identities.

Here are some responses from participants on how they think the two identities can be reconciled:

> "Serbian culture and religion are different from ours, but they are our fellow citizens who enjoy the same rights and responsibilities as we do." (Adna, 47 years old, Sarajevo)

> "Just like us, Serbs live here, study, work, and receive healthcare in BH—I believe all this contributes to their attachment to our country." (Edin, 39 years old, Tuzla)

Dr. Jahdadić from the Faculty of Political Sciences explains the study's findings: "Bosniaks from FBH perceive the identity of their Serbian neighbors as complex, with two main components: a civic one, tied to the fact that they are citizens of BH, and an ethnic one, tied to their belonging to the Serbian community. While a certain percentage of Bosniaks still see the ethnic identity as more dominant, our study reveals that the 'silent majority' actually views these two identities as equal and does not see any contradictions between them."

Professor Spahić, who led the research team, adds: "These findings are a valuable testament to how Bosniaks view the Serbian community in FBH and their identity in the current historical context."

Outgroup experience intervention

Original (Bosnian)

Istraživanje: većina Srba u Federacije BiH vidi sebe jednako Srbima i Bosancima

Kako se Srbi u FBiH nose sa dilemom između njihovog srpskog i bosanskog identiteta? Novo istraživanje u FBiH utvrdilo je da većina Srba iz Federacije ne želi da bira između to dvoje.

U studiji koju su vodili profesori dr Jasmin Spahić i dr Nedim Jahdadić sa Fakulteta političkih nauka u Sarajevu, ispitano je kako se Srbi iz Federacije BiH nacionalno identifikuju. U saradnji sa Agencijom za statistiku BiH, ispitan je uzorak od oko 2000 punoljetnih Srba koji žive u FBiH. Reprezentativnost uzorka, napominju autori, omogućava da se rezultati generalizuju na cjelokupnu populaciju Srba u Federaciji. Ovo je jedna od najsveobuhvatnijih studija ove vrste do danas. Rezultati istraživanja daju zanimljiv uvid o tome kako Srbi u FBiH vide svoj odnos prema BiH i svoj identitet kao građana BiH. Suprotno preovlađujućem mišljenju i slici koju promovišu pojedini mediji, 83% ispitanika tvrdi da osjeća bliskost prema BiH i svim njenim građanima, te ukazuje na sličnosti između Srba i Bošnjaka. Većina Srba u FBiH vide sebe u jednakoj mjeri kao Srbe i Bosance i ne smatraju da bi trebali birati između ta dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako je moguće pomiriti ta dva identiteta:

> „S jedne strane, naša zajednica, kultura, vjera – to je sve srpsko. S druge strane, mi živimo u ovdje, školujemo se, radimo, liječimo se u FBiH – to ne možemo da ignorišemo." (Mirjana, 47 godina, Sarajevo)

> „Naravno, poštujem srpsku tradiciju i običaje. Ali isto tako poštujem i BiH kao državu - tu sam rođen, tu živim, to je prosto moja država" (Miroslav, 39 godina, Tuzla)

Dr Jahdadić sa Fakulteta političkih nauka objašnjava rezultate istraživanja: „Identitet Srba koji žive u Federaciji BiH ima dvije glavne komponente: njihov građanski identitet vezan je za činjenicu da su državljani BiH, a njihov etnički identitet vezan je za pripadnost srpskoj zajednici. Dok je izvjestan procenat Srba u Federaciji odlučio da ojačava svoj srpski identitet nauštrb bosanskog, naše istraživanje otkriva da je za "tihu većinu" zapravo moguće da se oni pomire i ne vide kontradikcije među njima."

Profesor Spahić koji je vodio istraživački tim dodaje: „Ovi podaci su dragocjeno svjedočanstvo o zajednici Srba u Federaciji BiH i razvoju njihovog identiteta u ovom trenutku i istorijskom kontekstu."

Translated (English)

Study: Most Serbs in the Federation of BH See Themselves Equally as Serbs and Bosnians

How do Serbs in the Federation of Bosnia and Herzegovina (FBH) reconcile their Serbian and Bosnian identities? A new study in FBH has found that the majority of Serbs from the Federation do not feel the need to choose between the two.

The study, led by Professors Dr. Jasmin Spahić and Dr. Nedim Jahdadić from the Faculty of Political Sciences in Sarajevo, explored how Serbs from FBH identify nationally. In collaboration with the BH Agency for Statistics, a sample of approximately 2,000 adult Serbs living in FBH was surveyed. The authors emphasize that the sample's representativeness allows the findings to be generalized to the entire population of Serbs in the Federation. This is one of the most comprehensive studies of its kind to date.

The results offer fascinating insights into how Serbs in FBH perceive their relationship with Bosnia and Herzegovina and their identity as its citizens. Contrary to prevailing opinions and the narratives promoted by some media outlets, 83% of respondents expressed a sense of closeness to BH and its citizens, highlighting similarities between Serbs and Bosniaks. Most Serbs in FBH see themselves equally as Serbs and Bosnians and do not feel they should choose between the two identities.

Here are some responses from participants on how the two identities can coexist:

> "On one hand, our community, culture, and religion are all Serbian. On the other hand, we live here, study, work, and receive healthcare in FBH—we cannot ignore that." (Mirjana, 47 years old, Sarajevo)

> "Of course, I respect Serbian traditions and customs. But I also respect BH as a country—I was born here, I live here; it is simply my country." (Miroslav, 39 years old, Tuzla)

Dr. Jahdadić from the Faculty of Political Sciences explains the study's findings: "The identity of Serbs living in FBH has two main components: their civic identity is tied to being citizens of BH, and their ethnic identity is tied to belonging to the Serbian community. While a certain percentage of Serbs in the Federation have chosen to emphasize their Serbian identity at the expense of their Bosnian identity, our research reveals that for the 'silent majority,' it is possible to reconcile these two identities without seeing them as contradictory."

Professor Spahić, who led the research team, adds: "These findings are a valuable testament to the Serbian community in the Federation of BH and the development of their identity in the current historical context."

Control condition

Original (Bosnian)

Zbog sakupljanja otrova ugrožen poskok

Pravilnikom o stavljanju pod kontrolu korištenja i prometa divlje flore i faune zaštićeno je 97 vrsta, među kojima su najbrojnije biljke, njih 63.

Federalno ministarstvo okoliša i turizma zabranilo je sakupljanje barske perunike, trepavice, planinskog i rumelijskog kantariona, ali i medicinske pijavice, kornjače i poskoka. I to na području cijele Federacije BiH, dok u pojedinim dijelovima zemlje važi crveno svjetlo za sakupljanje žaba i puževa. Zašto? Ugroženost ovih vrsta, kako su za „Dnevni Avaz" objasnili u Fondu za zaštitu okoliša, bila je zbog njihovog skupljanja, nekad zbog hrane, a nekad iz medicinskih i komercijalnih razloga. Zato je, prema Uredbi o kontroli korištenja i prometa divlje flore i faune, zaštićeno 97 vrsta, među kojima su najbrojnije biljke - ima ih 63. Zaštićene su i gljive, pojedini lišajevi, neki gmizavci, tri vrste vodozemaca i četiri vrste beskičmenjaka.

„Posljedice nestručnog i spontanog sakupljanja najuočljivije su u stanju populacija životinjskih vrsta pod kontrolom prometa, gdje je neselektivno prikupljanje puževa i žaba svih veličina dovelo do manjka spolno zrelih jedinki i stagnacije njihovih populacija," objašnjavaju u Fondu i dodaju da su pod kontrolom sakupljanja one gljive koje se ne mogu proizvoditi u vještačkim uslovima. A to su vrganj, lisičarka i rujnica.

Uprkos tome što je zaštićena vrsta, Međunarodna unija za zaštitu prirode i Evropska komisija potvrdili su trend smanjenja populacije poskoka. Razlog je dugotrajna eksploatacija zbog nabavke otrova, a neselektivni ribolov u roku od nekoliko godina prijeti da dovede do potpunog nestanka ove vrste iz pojedinih područja naše zemlje.

„Ilegalni izlov poskoka doveo je do narušavanja starosne strukture, kao i smanjenja reproduktivnog potencijala vrste, gustine i kretanja populacije, pa je neophodno dugoročno praćenje ove vrste na teritoriji cijele FBiH," ističu iz Fonda i dodaju da je potrebno razviti sistem monitoringa i nastaviti sa sankcionisanjem nezakonitih radnji u saradnji sa inspekcijskim službama nadležnim za ovu oblast.

Ove godine obustavljeno je i sakupljanje šumskih kornjača. Osim urbanizacije, koja prijeti da ugrozi njeno stanište, stručnjaci upozoravaju da je šumska kornjača u našoj zemlji izloženija eksploataciji više od bilo koje druge vrste gmizavaca.

„Višedecenijska unutrašnja i međunarodna trgovina jedinkama, nelegalno sakupljanje i promet kornjača sa teritorije FBiH predstavljaju izuzetno značajan faktor u ugroženosti ove vrste, posebno ako se ima u vidu dugo generisanje ove vrste," dodaju iz Fonda.

Translated (English)

Due to Venom Collection, the Nose-Horned Viper Is Under Threat

Under the Regulation on Controlling the Use and Trade of Wild Flora and Fauna, 97 species have been granted protected status, with plants being the most represented, totaling 63 species.

The Federal Ministry of Environment and Tourism has prohibited the collection of marsh iris, fringed centaury, mountain and Rumelian centaury, as well as medicinal leeches, tortoises, and the venomous snake known as nose-horned viper. This ban applies across the entire Federation of Bosnia and Herzegovina (FBH), while in certain regions, additional restrictions have been placed on collecting frogs and snails. Why? The endangerment of these species, as explained by the Fund for Environmental Protection and Energy Efficiency for "Dnevni avaz", is due to their collection, sometimes for food, and sometimes for medical and commercial reasons. The regulation aims to protect 97 species, which include not only plants but also fungi, certain lichens, some reptiles, three amphibian species, and four invertebrate species.

"The consequences of unregulated and indiscriminate collection are most evident in the population status of animal species under trade control. Non-selective harvesting of snails and frogs of all sizes has led to a shortage of sexually mature individuals and stagnation in their populations," explain experts from the Environmental Protection Fund. They add that fungi such as porcini, chanterelle, and saffron milk cap, which cannot be cultivated artificially, are also under collection control.

Despite being a protected species, the International Union for Conservation of Nature (IUCN) and the European Commission have confirmed a declining trend in the population of nose-horned vipers. The primary reason is prolonged exploitation for venom extraction, and indiscriminate collection could lead to the complete disappearance of the species from certain areas within a few years.

"Illegal harvesting of the nose-horned viper has disrupted its age structure, reduced its reproductive potential, density, and population dynamics. Long-term monitoring across the entire FBH is essential," the Fund expert emphasizes. They further stress the need to develop a monitoring system and continue penalizing illegal activities in cooperation with the relevant inspection authorities.

This year, the collection of forest tortoises has also been halted. In addition to urbanization threatening their habitat, experts warn that forest tortoises are more exploited than any other reptile species in the region.

"Decades of domestic and international trade, illegal collection, and trafficking of tortoises from FBH have significantly endangered this species, particularly considering their long generation time," the Fund expert concludes.

Experiment 3 (Republika Srpska)

Ingroup norm intervention

Original (Serbian)

Istraživanje: većina Srba vidi Bošnjake iz Republike Srpske jednako Bošnjacima i građanima RS

Kako Srbi vide bošnjačku manjinu u RS? Novo istraživanje utvrdilo je da većina Srba smatra da Bošnjaci iz Republike Srpkse mogu istovremeno da se osjećaju kao dio svoje etničke grupe i kao građani Republike Srpske.

U studiji koju su vodili profesori dr Nikola Mladenović i dr Miroslav Božić sa Fakulteta političkih nauka u Banjoj Luci, ispitani su stavovi građana Republike Srpkse prema bošnjačkoj manjini u ovom entitetu. U saradnji sa Republičkim zavodom za statistiku Republike Srpske ispitan je uzorak od oko 2000 punoljetnih građana RS koji za sebe kažu da su srpske nacionalnosti i pravoslavne vjeroispovjesti. Reprezentativnost uzorka, napominju autori, omogućava da se rezultati generalizuju na cjelokupnu populaciju Srba u RS. Rezultati istraživanja daju zanimljiv uvid o tome kako Srbi vide bošnjačku manjinu u Republici Srpskoj. Suprotno preovlađujućem mišljenju i slici koju promovišu pojedini mediji, 83% ispitanika smatra Bošnjake iz RS bliskim sebi, te ukazuju na sličnosti između naroda koji žive u RS. Oni vjeruju da Bošnjaci iz RS vide sebe u jednakoj mjeri kao Bošnjake i građane RS i ne smatraju da postoji potreba da odaberu jedan od ova dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako misle da je moguće pomiriti dva identiteta:

„Bošnjačka kultura i religija jesu drugačije od naših, ali su oni naši sugrađani koji uživaju jednake obaveze i prava kao i mi." (Mirjana, 47 godina, Banja Luka)

„Baš kao i mi, Bošnjaci žive ovdje, školuju se, rade, liječe se u RS - vjerujem da sve to doprinosi njihovoj vezanosti za naš entitet." (Miroslav, 39 godina, Doboj)

Dr Božić sa Fakulteta političkih nauka objašnjava rezultate istraživanja: „Srbi iz Republike Srpske opažaju identitet svojih bošnjačkih sugrađana kao složen, odnosno kao da ima dvije komponente: građansku, koja je vezana za činjenicu da su državljani RS, i etničku, koja je vezana za činjenicu da pripadaju bošnjačkoj zajednici. Dok izvjestan procenat Srba i dalje smatra da je etnički identitet istaknutiji, naše istraživanje otkriva da „tiha većina" zapravo vidi dva identiteta kao ravnopravna i da među njima ne vide kontradikcije."

Profesor Mladenović koji je vodio istraživački tim dodaje: „Ovi podaci su dragocjeno svjedočanstvo o tome kako Srbi vide zajednicu Bošnjaka u Republici Srpskoj i njihov identitet u ovom trenutku i istorijskom kontekstu."

Translated (English)

Study: Most Serbs See Bosniaks from Republika Srpska Equally as Bosniaks and RS Citizens

How do Serbs view the Bosniak minority in Republika Srpska? A new study has found that most Serbs believe Bosniaks from Republika Srpska can simultaneously identify as part of their ethnic group and as citizens of Republika Srpska.

The study, led by Professors Dr. Nikola Mladenović and Dr. Miroslav Božić from the Faculty of Political Sciences in Banja Luka, examined the attitudes of Republika Srpska residents toward the Bosniak minority in the entity. In collaboration with the Republika Srpska Institute of Statistics, a sample of approximately 2,000 adult residents of RS, who identify as Serb and Orthodox, was surveyed. The authors emphasized that the sample's representativeness allows the findings to be generalized to the entire Serb population in RS.

The results provide valuable insights into how Serbs perceive the Bosniak minority in Republika Srpska. Contrary to prevailing opinions and the portrayal by certain media, 83% of respondents consider Bosniaks in RS as close to them and emphasize the similarities between the peoples living in RS. They believe Bosniaks in RS see themselves equally as Bosniaks and RS citizens, without feeling the need to choose between the two identities.

Here are some responses from participants when asked how they think these two identities can coexist:

> "Bosniak culture and religion are different from ours, but they are our fellow citizens who share the same rights and obligations as we do." (Mirjana, 47, Banja Luka)

> "Just like us, Bosniaks live here, study, work, and receive healthcare in RS – I believe all of this strengthens their connection to our entity." (Miroslav, 39, Doboj)

Dr. Božić from the Faculty of Political Sciences explains the findings:

"Serbs from Republika Srpska perceive their Bosniak neighbors' identity as complex, consisting of two components: a civic identity tied to being RS citizens and an ethnic identity associated with belonging to the Bosniak community. While a portion of Serbs still sees ethnic identity as more prominent, our research reveals that the 'silent majority' actually views the two identities as equal and sees no contradiction between them."

Professor Mladenović, who led the research team, adds: "This data serves as invaluable testimony to how Serbs perceive the Bosniak community in Republika Srpska and their identity within this historical and contemporary context."

Outgroup experience intervention

Original (Serbian)

Istraživanje: većina Bošnjaka u Republici Srpskoj vidi sebe jednako Bošnjacima i građanima RS

Kako se Bošnjaci u RS nose sa dilemom između njihovog bošnjačkog i entitetskog identiteta? Novo istraživanje u Republici Srpskoj utvrdilo je da većina Bošnjaka iz RS ne želi da bira između to dvoje.

U studiji koju su vodili profesori dr Nikola Mladenović i dr Miroslav Božić sa Fakulteta političkih nauka u Banjoj Luci, ispitano je kako se Bošnjaci iz Republike Srpske nacionalno identifikuju. U saradnji sa Republičkim zavodom za statistiku Republike Srpske, ispitan je uzorak od oko 2000 punoljetnih Bošnjaka koji žive u RS. Reprezentativnost uzorka, napominju autori, omogućava da se rezultati generalizuju na cjelokupnu populaciju Bošnjaka u RS. Ovo je jedna od najsveobuhvatnijih studija ove vrste do danas. Rezultati istraživanja daju zanimljiv uvid o tome kako Bošnjaci u RS vide svoj odnos prema Republici Srpskoj i svoj identitet kao građana RS. Suprotno preovlađujućem mišljenju i slici koju promovišu pojedini mediji, 83% ispitanika tvrdi da osjeća bliskost prema entitetu RS i svim njenim građanima, te ukazuje na sličnosti između Bošnjaka i Srba. Većina Bošnjaka u RS vide sebe u jednakoj mjeri kao Bošnjake i kao građane RS i ne smatraju da bi trebali birati između ta dva identiteta.

Evo kako izgledaju odgovori nekih od ispitanika na pitanje kako je moguće pomiriti ta dva identiteta:

> „S jedne strane, naša zajednica, kultura, vjera – to je sve bošnjačko. S druge strane, mi živimo u ovdje, školujemo se, radimo, liječimo se u Republici Srpskoj – to ne možemo da ignorišemo." (Adna, 47 godina, Banja Luka)

> „Naravno, poštujem bošnjačku tradiciju i običaje. Ali isto tako poštujem i RS kao entitet - tu sam rođen, tu živim, to je prosto moja država" (Edin, 39 godina, Doboj)

Dr Božić sa Fakulteta političkih nauka objašnjava rezultate istraživanja: „Identitet Bošnjaka koji žive u Republici Srpskoj ima dvije glavne komponente: njihov građanski identitet vezan je za činjenicu da su državljani RS, a njihov etnički identitet vezan je za pripadnost bošnjačkoj zajednici. Dok je izvjestan procenat Bošnjaka u RS odlučio da ojačava svoj bošnjački identitet nauštrb entitetskog, naše istraživanje otkriva da je za "tihu većinu" zapravo moguće da se oni pomire i ne vide kontradikcije među njima."

Profesor Mladenović koji je vodio istraživački tim dodaje: „Ovi podaci su dragocjeno svjedočanstvo o zajednici Bošnjaka u RS i razvoju njihovog identiteta u ovom trenutku i istorijskom kontekstu."

Translated (English)

Study: Most Bosniaks in Republika Srpska See Themselves Equally as Bosniaks and RS Citizens

How do Bosniaks in Republika Srpska navigate the dilemma between their Bosniak and entity identities? A new study in Republika Srpska found that most Bosniaks in RS do not feel the need to choose between the two.

The study, led by Professors Dr. Nikola Mladenović and Dr. Miroslav Božić from the Faculty of Political Sciences in Banja Luka, examined how Bosniaks from Republika Srpska identify nationally. Conducted in collaboration with the Republika Srpska Institute of Statistics, the study surveyed a sample of approximately 2,000 adult Bosniaks residing in RS. The authors note that the representativeness of the sample allows the findings to be generalized to the entire Bosniak population in RS. This is one of the most comprehensive studies of its kind to date.

The results offer valuable insights into how Bosniaks in RS perceive their relationship with Republika Srpska and their identity as RS citizens. Contrary to prevailing opinions and media portrayals, 83% of respondents reported feeling a sense of closeness to RS and its citizens, highlighting similarities between Bosniaks and Serbs. Most Bosniaks in RS see themselves equally as Bosniaks and RS citizens, without feeling the need to prioritize one identity over the other.

Here are some responses from participants when asked how these two identities can be reconciled:

> "On one hand, our community, culture, and faith are all Bosniak. On the other hand, we live here, study, work, and receive healthcare in Republika Srpska – we cannot ignore that." (Adna, 47, Banja Luka)

> "Of course, I respect Bosniak traditions and customs. But I also respect RS as an entity – I was born here, I live here, it is simply my state." (Edin, 39, Doboj)

Dr. Božić from the Faculty of Political Sciences explains the findings:

"The identity of Bosniaks living in Republika Srpska has two main components: their civic identity, linked to being RS citizens, and their ethnic identity, tied to belonging to the Bosniak community. While a certain percentage of Bosniaks in RS have chosen to emphasize their Bosniak identity over their entity identity, our research reveals that for the 'silent majority,' it is possible to reconcile these two identities without perceiving contradictions."

Professor Mladenović, who led the research team, adds: "This data serves as invaluable testimony to the Bosniak community in RS and the development of their identity in this historical and contemporary context."

Control condition

Original (Serbian)

Zbog sakupljanja otrova ugrožen poskok

Pravilnikom o stavljanju pod kontrolu korištenja i prometa divlje flore i faune zaštićeno je 97 vrsta, među kojima su najbrojnije biljke, njih 63.

Ministarstvo za prostorno uređenje, građevinarstvo i ekologiju Republike Srpske zabranilo je sakupljanje barske perunike, trepavice, planinskog i rumelijskog kantariona, ali i medicinske pijavice, kornjače i poskoka. I to na području cijele RS, dok u pojedinim dijelovima zemlje važi crveno svjetlo za sakupljanje žaba i puževa. Zašto? Ugroženost ovih vrsta, kako su za "Glas Srpske" objasnili u Fondu za zaštitu životne sredine i energetsku efikasnost, bila je zbog njihovog skupljanja, nekad zbog hrane, a nekad iz medicinskih i komercijalnih razloga. Zato je, prema Uredbi o kontroli korištenja i prometa divlje flore i faune, zaštićeno 97 vrsta, među kojima su najbrojnije biljke - ima ih 63. Zaštićene su i gljive, pojedini lišajevi, neki gmizavci, tri vrste vodozemaca i četiri vrste beskičmenjaka.

„Posljedice nestručnog i spontanog sakupljanja najuočljivije su u stanju populacija životinjskih vrsta pod kontrolom prometa, gdje je neselektivno prikupljanje puževa i žaba svih veličina dovelo do manjka spolno zrelih jedinki i stagnacije njihovih populacija," objašnjavaju u Fondu i dodaju da su pod kontrolom sakupljanja one gljive koje se ne mogu proizvoditi u vještačkim uslovima. A to su vrganj, lisičarka i rujnica.

Uprkos tome što je zaštićena vrsta, Međunarodna unija za zaštitu prirode i Evropska komisija potvrdili su trend smanjenja populacije poskoka. Razlog je dugotrajna eksploatacija zbog nabavke otrova, a neselektivni ribolov u roku od nekoliko godina prijeti da dovede do potpunog nestanka ove vrste iz pojedinih područja naše zemlje.

„Ilegalni izlov poskoka doveo je do narušavanja starosne strukture, kao i smanjenja reproduktivnog potencijala vrste, gustine i kretanja populacije, pa je neophodno dugoročno praćenje ove vrste na teritoriji cijele RS" ističu iz Fonda i dodaju da je potrebno razviti sistem monitoringa i nastaviti sa sankcionisanjem nezakonitih radnji u saradnji sa inspekcijskim službama nadležnim za ovu oblast.

Ove godine obustavljeno je i sakupljanje šumskih kornjača. Osim urbanizacije, koja prijeti da ugrozi njeno stanište, stručnjaci upozoravaju da je šumska kornjača u našoj zemlji izloženija eksploataciji više od bilo koje druge vrste gmizavaca.

„Višedecenijska unutrašnja i međunarodna trgovina jedinkama, nelegalno sakupljanje i promet kornjača sa teritorije RS predstavljaju izuzetno značajan faktor u ugroženosti ove vrste, posebno ako se ima u vidu dugo generisanje ove vrste" dodaju iz Fonda.

Translated (English)

Due to Venom Collection, the Nose-Horned Viper Is Under Threat

Under the Regulation on Controlling the Use and Trade of Wild Flora and Fauna, 97 species have been granted protected status, with plants being the most represented, totaling 63 species.

The Ministry of Spatial Planning, Construction, and Ecology of Republika Srpska has prohibited the collection of marsh iris, fringed centaury, mountain and Rumelian centaury, as well as medicinal leeches, tortoises, and the venomous snake known as nose-horned viper. This ban applies across the entire Republika Srpska (RS), while in certain regions, additional restrictions have been placed on collecting frogs and snails. Why? The endangerment of these species, as explained by the Fund for Environmental Protection and Energy Efficiency for "Glas Srpske", is due to their collection, sometimes for food, and sometimes for medical and commercial reasons. The regulation aims to protect 97 species, which include not only plants but also fungi, certain lichens, some reptiles, three amphibian species, and four invertebrate species.

"The consequences of unregulated and indiscriminate collection are most evident in the population status of animal species under trade control. Non-selective harvesting of snails and frogs of all sizes has led to a shortage of sexually mature individuals and stagnation in their populations," explain experts from the Environmental Protection Fund. They add that fungi such as porcini, chanterelle, and saffron milk cap, which cannot be cultivated artificially, are also under collection control.

Despite being a protected species, the International Union for Conservation of Nature (IUCN) and the European Commission have confirmed a declining trend in the population of nose-horned vipers. The primary reason is prolonged exploitation for venom extraction, and indiscriminate collection could lead to the complete disappearance of the species from certain areas within a few years.

"Illegal harvesting of the nose-horned viper has disrupted its age structure, reduced its reproductive potential, density, and population dynamics. Long-term monitoring across the entire RS is essential," the Fund expert emphasizes. They further stress the need to develop a monitoring system and continue penalizing illegal activities in cooperation with the relevant inspection authorities.

This year, the collection of forest tortoises has also been halted. In addition to urbanization threatening their habitat, experts warn that forest tortoises are more exploited than any other reptile species in the region.

"Decades of domestic and international trade, illegal collection, and trafficking of tortoises from RS have significantly endangered this species, particularly considering their long generation time," the Fund expert concludes.

Appendix G: Sensitivity analysis – inferential analyses on normalized variables, experiments 1-3

Testing Hypothesis 1

Table G1

Differences in plausibility assessment between the conditions - normalized variables

	ANOVA model	**IG norm – OG experience contrast**	
	F (df1, df2)	t (df)	*d* [95% CI]
Plausibility assessment			
Experiment 1 (Serbia)	5.062 (2, 325)**	-2.687 (325)**	-.37 [-.64, -.10]
Experiment 2 (FBH)	15.360 (2, 390)***	0.208 (390)	.03 [-.22, .27]
Experiment 3 (RS)	15.946 (2, 384)***	3.730 (384)***	.46 [.23, .71]

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

Testing Hypotheses 2 and 3

Table G2

Differences in dual identity perception between the conditions - normalized variables

		Ingroup norm vs. Outgroup experience	**Ingroup norm vs. control**	**Outgroup experience vs. control**	***F* (df1, df2)**
Experiment 1 (Serbia)	*t*(325)	-1.665	4.293***	5.791***	18.228***
	Cohen's d	-.22 [-.49, .05]	.60 [.32, .86]	.79 [.51, 1.07]	(2, 325)
Experiment 2 (FBH)	*t*(390)	-0.402	0.524	0.939	0.443
	Cohen's d	-.05 [-.29, .19]	.06 [-.18, .31]	.12 [-.12, .36]	(2, 390)
Experiment 3 (RS)	*t*(384)	-0.163	1.236	2.587*	3.346
	Cohen's d	-.17 [-.41, .08]	.15 [-.09, .40]	.32 [.08, .57]	(2, 384)*

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

Testing Hypothesis 4

Table G3

Correlations between individual differences and plausibility assessment of two experimental conditions – normalized variables (Experiments 1-3)

	Experiment 1		**Experiment 2**		**Experiment 3**	
	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience
Ideological orientation	.04 [-.11, .20]	-.26** [-.41, -.10]	-.11 [-.26, .04]	-.06 [-.2, .08]	-.08 [-.22, .07]	-.24** [-.38, -.10]
Ethnic identification	**.17 [.01, .31]**	**-.25* [-.40, -.08]**	-.23** [-.37, -.09]	-.11 [-.24, .04]	.03 [-.12, .18]	-.14 [-.28, .00]
Perspective taking	**-.03 [-.18, .12]**	**.29*** [.13, .43]**	.42*** [.29, .53]	.24** [.10, .37]	.38*** [.25, .50]	.33*** [.20, .46]
Threat perception	**-.18 [-.32, -.02]**	**-.46*** [-.58, -.32]**	-.44*** [-.55, -.32]	-.23** [-.36, -.09]	-.28** [-.41, -.14]	-.25** [-.38, -.11]
Outgroup contact			.28** [.14, .41]	.20* [.06, .33]	.05 [-.10, .19]	.04 [-.11, .18]

Note. 90% confidence intervals are given in brackets. Bolded are the correlations that differ between the conditions.
Note. ***$p < .001$, **$p < .01$, *$p < .05$

Testing Hypotheses 5 and 6

Table G4

Correlations between individual differences and dual identity perception – normalized variables (Experiments 1-3)

	Experiment 1			**Experiment 2**			**Experiment 3**		
	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control
Ideological orientation	-.19* [-.34, -.04]	-.28** [-.43, -.12]	-.37*** [-.50, -.23]	-.08 [-.23, .07]	-.22* [-.35, -.08]	-.20* [-.33, -.06]	-.25** [-.38, -.1]	-.25** [-.38, -.11]	-.08 [-.22, .07]
Ethnic identification	.01 [-.15, .16]	-.24* [-.39, -.07]	-.23* [-.37, -.08]	-.21* [-.34, -.06]	-.24** [-.37, -.11]	-.07 [-.21, .08]	-.13 [-.27, .01]	-.17* [-.31, -.03]	-.14 [-.28, .01]
Perspective taking	.18* [.03, .33]	.27** [.11, .42]	.26** [.10, .39]	.46*** [.33, .57]	.37*** [.24, .49]	.31*** [.17, .43]	.32*** [.18, .44]	.37*** [.24, .49]	.18* [.03, .31]
Threat perception	-.32*** [-.46, -.18]	-.55*** [-.65, -.42]	-.39*** [-.51, -.25]	-.48*** [-.59, -.36]	-.40*** [-.51, -.27]	-.42*** [-.53, -.29]	-.30*** [-.43, -.16]	-.34*** [-.47, -.21]	-.28** [-.41, -.15]
Outgroup contact				.16 [.02, .30]	.32*** [.18, .44]	.21* [.07, .34]	.20* [.06, .34]	.13 [-.02, .27]	.17 [.03, .31]
Plausibility	**.33*** [.18, .46]**	**.61*** [.49, .70]**	**.33*** [.18, .46]**	**.40*** [.27, .51]**	**.39*** [.26, .5]**	**.09 [-.06, .23]**	**.43*** [.30, .55]**	**.62*** [.52, .7]**	**.11 [-.03, .25]**

Note. 90% confidence intervals are given in brackets. Bolded are the correlations that differ between the conditions.
Note. ***$p < .001$, **$p < .01$, *$p < .05$

Predictors of plausibility assessment

Table G5

Predictors of plausibility assessment on normalized variables – Experiment 1

	step 0			step 1			step 2			step 3			step 4			Step 5		
		b			*b*			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	-0.01	[-0.49, 0.46]		-0.15	[-0.64, 0.34]		-0.3	[-0.78, 0.19]		-0.34	[-0.83, 0.14]		-0.38	[-0.87, 0.10]		-0.38	[-0.87, 0.11]	
Gender (1 = female)	0.11	[-0.10, 0.32]	.06	0.13	[-0.08, 0.34]	0.07	0.11	[-0.10, 0.32]	0.06	0.13	[-0.08, 0.34]	0.07	0.11	[-0.10, 0.33]	0.06	0.12	[-0.10, 0.33]	0.06
Age	0	[-0.00, 0.01]	.05	0	[-0.00, 0.01]	0.06	0	[-0.00, 0.01]	0.07	0	[-0.00, 0.01]	0.06	0	[-0.00, 0.01]	0.07	0	[-0.00, 0.01]	0.06
Religiosity	-0.05	[-0.11, 0.00]	-.11	-0.05	[-0.11, 0.00]	-0.11	-0.02	[-0.09, 0.04]	-0.05	-0.02	[-0.08, 0.04]	-0.04	-0.02	[-0.08, 0.05]	-0.03	-0.02	[-0.08, 0.04]	-0.04
Education	-0.01	[-0.07, 0.05]	-.02	-0.01	[-0.07, 0.05]	-0.02	-0.01	[-0.06, 0.05]	-0.01	0.01	[-0.05, 0.06]	0.01	0.01	[-0.05, 0.07]	0.02	0.01	[-0.05, 0.07]	0.02
Intervention type (OG experience vs. IG norm)				0.37***	[0.12, 0.62]	0.18	0.36***	[0.12, 0.60]	0.18	0.37***	[0.13, 0.61]	0.18	0.37***	[0.13, 0.61]	0.18	0.37***	[0.13, 0.61]	0.18
Intervention type (control vs. IG norm)				0	[-0.24, 0.25]	0	0	[-0.23, 0.24]	0	-0.01	[-0.24, 0.23]	0	-0.01	[-0.24, 0.23]	0	0	[-0.24, 0.23]	0
Ideological orientation							-0.01	[-0.17, 0.14]	-0.01	-0.01	[-0.17, 0.14]	-0.01	-0.03	[-0.18, 0.13]	-0.03	-0.03	[-0.18, 0.13]	-0.03
Ethnic identification							0.13	[-0.01, 0.26]	0.13	0.30**	[0.11, 0.48]	0.3	0.30**	[0.10, 0.49]	0.3	0.29**	[0.10, 0.49]	0.3
Perspective taking							0.04	[-0.07, 0.15]	0.04	0.03	[-0.08, 0.14]	0.03	0.02	[-0.09, 0.13]	0.02	-0.07	[-0.24, 0.11]	-0.07
Threat perception							-0.28**	[-0.40, -0.15]	-0.29	-0.27**	[-0.40, -0.15]	-0.28	-0.27**	[-0.47, -0.07]	-0.28	-0.29**	[-0.49, -0.09]	-0.3
Ethnic identification * Intervention type (OG experience vs. IG norm)										-0.37**	[-0.61, -0.12]	-0.21	-0.32*	[-0.59, -0.05]	-0.18	-0.31*	[-0.58, -0.05]	-0.18
Ethnic identification * Intervention type (control vs. IG norm)										-0.18	[-0.42, 0.07]	-0.1	-0.22	[-0.48, 0.05]	-0.12	-0.21	[-0.48, 0.06]	-0.12
Threat perception * Intervention type (OG experience vs. IG norm)													-0.11	[-0.38, 0.16]	-0.06	-0.05	[-0.35, 0.24]	-0.03

	step 0			step 1			step 2			step 3			step 4			Step 5		
		b			*b*			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
Threat perception * Intervention type (control vs. IG norm)													0.08	[-0.19, 0.35]	0.05	0.11	[-0.16, 0.38]	0.07
Perspective taking * Intervention type (OG experience vs. IG norm)																0.16	[-0.10, 0.41]	0.1
Perspective taking * Intervention type (control vs. IG norm)																0.13	[-0.14, 0.40]	0.07
F*(df1, df2), *p	**1.45 (4, 323), *p* = .217**			**2.79 (6, 321), *p* = .012**			**4.46 (10, 317), *p* < .001**			**4.50 (12, 315), *p* < .001**			**3.99 (14, 313), *p* < .001**			**3.59 (16, 311), *p* < .001**		
R^2 (R^2_{adj})	**.018 (.005)**			**.050 (.032)**			**.123 (.096)**			**.146 (.114)**			**.151 (.113)**			**.156 (.113)**		
Δ*F*(df1, df2)				**5.39 (2, 323), *p* = .005**			**6.67 (4, 327), *p* < .001**			**4.25 (2, 315), *p* = .015**			**0.94 (2, 313), *p* =.394)**			**0.84 (2, 311), *p* = .431**		
ΔR^2				**.032**			**.074**			**.023**			**.005**			**.005**		

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

Table G6

Predictors of plausibility assessment on normalized variables – Experiment 2

	step 0			step 1			step 2		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	0.06	[-0.42, 0.54]		0.23	[-0.25, 0.71]	0.03	0.4	[-0.10, 0.90]	
Gender (1 = female)	0.05	[-0.15, 0.25]	0.03	0.05	[-0.14, 0.25]	0.14	0.12	[-0.08, 0.32]	0.06
Age	0.01**	[0.00, 0.02]	0.14	0.01**	[0.00, 0.02]	-0.14	0.01	[-0.00, 0.01]	0.08
Religiosity	-0.07*	[-0.13, -0.02]	-0.13	-0.08**	[-0.13, -0.02]	-0.02	-0.07*	[-0.13, -0.01]	-0.05
Education	-0.02	[-0.11, 0.06]	-0.03	-0.02	[-0.10, 0.06]	0.01	-0.04	[-0.12, 0.04]	0.01
Intervention type (OG experience vs. IG norm)				0.01	[-0.21, 0.24]	-0.27	0.02	[-0.20, 0.24]	-0.13
Intervention type (control vs. IG norm)				-0.55***	[-0.77, -0.33]	0.03	-0.58***	[-0.79, -0.36]	-0.28
Ideological orientation							0.06	[-0.06, 0.17]	0.05
Ethnic identification							0.09	[-0.02, 0.20]	0.09
Perspective taking							0.08	[-0.04, 0.20]	0.08
Threat perception							-0.18**	[-0.31, -0.05]	-0.19
Outgroup contact							0.06	[-0.05, 0.17]	0.06
F*(df1, df2), *p	**4.71 (4, 388), *p* = .001**			**8.94 (6, 386), *p* < .001**			**7.18 (11, 381), *p* < .001**		
R^2 (R^2_{adj})	**.046 (.036)**			**.122 (.108)**			**.172 (.148)**		
Δ*F*(df1, df2)				**16.64 (2, 386), *p* < .001**			**4.56 (5, 381), *p* < .001**		
ΔR^2				**.076**			**.050**		

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

Table G7

Predictors of plausibility assessment on normalized variables – Experiment 3

	step 0			**step 1**			**step 2**			**step 3**		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	0.37	[-0.11, 0.84]		0.71**	[0.24, 1.19]		0.73**	[0.24, 1.21]		0.70**	[0.21, 1.19]	
Gender (1 = female)	0.18	[-0.02, 0.39]	0.09	0.18	[-0.02, 0.38]	0.08	0.14	[-0.07, 0.35]	0.07	0.13	[-0.08, 0.34]	0.06
Age	0	[-0.01, 0.01]	0.01	0	[-0.01, 0.01]	0.00	0	[-0.01, 0.01]	0.01	0	[-0.01, 0.01]	0.01
Religiosity	0	[-0.05, 0.06]	0.01	0	[-0.05, 0.05]	-0.01	0.01	[-0.05, 0.07]	0.02	0.01	[-0.05, 0.07]	0.02
Education	-0.15**	[-0.24, -0.06]	-0.17	-0.13**	[-0.22, -0.04]	-0.15	-0.15***	[-0.24, -0.07]	-0.17	-0.15***	[-0.24, -0.06]	-0.17
Intervention type (OG experience vs. IG norm)				-0.44***	[-0.66, -0.21]	-0.21	-0.39***	[-0.61, -0.16]	-0.19	-0.39***	[-0.61, -0.16]	-0.19
Intervention type (control vs. IG norm)				-0.61***	[-0.84, -0.39]	-0.30	-0.59***	[-0.81, -0.36]	-0.29	-0.58***	[-0.81, -0.36]	-0.29
Ideological orientation							-0.06	[-0.17, 0.06]	-0.05	-0.02	[-0.19, 0.15]	-0.02
Ethnic identification							0.13*	[0.01, 0.26]	0.13	0.14*	[0.01, 0.26]	0.13
Perspective taking							0.12*	[0.01, 0.24]	0.13	0.12*	[0.01, 0.24]	0.13
Threat perception							-0.15*	[-0.28, -0.03]	-0.16	-0.14*	[-0.27, -0.02]	-0.15
Outgroup contact							-0.01	[-0.11, 0.10]	-0.01	-0.01	[-0.11, 0.09]	-0.01
Ideological orientation * Intervention type (OG experience vs. IG norm)										-0.16	[-0.39, 0.08]	-0.09
Ideological orientation * Intervention type (control vs. IG norm)										0.03	[-0.21, 0.27]	0.02
F*(df1, df2), *p	**3.65 (4, 382), *p* = .027**			**7.59 (6, 380), *p* < .001**			**6.64 (11, 375), *p* < .001**			**5.83 (13, 373), *p* < .001**		
R^2 (R^2_{adj})	**.037 (.027)**			**.107 (.093)**			**.163 (.138)**			**.169 (.140)**		
Δ*F*(df1, df2)				**14.94 (2, 380), *p* < .001**			**5.01 (5, 375), *p* < .001**			**1.304 (2, 373) *p* = .273**		
ΔR^2				**.070**			**.056**			**.006**		

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

Predictors of dual identity perception

Table G8

Predictors of dual identity perception on normalized variables – Experiment 1

	step 0			step 1			step 2			step 3			step 4		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	0.35	[-0.14, 0.84]		0.41	[-0.08, 0.90]		0.21	[-0.23, 0.64]		0.17	[-0.27, 0.62]		0.17	[-0.27, 0.61]	
Gender (1 = female)	0.16	[-0.06, 0.38]	0.08	0.19	[-0.02, 0.40]	0.10	0.06	[-0.13, 0.25]	0.03	0.05	[-0.14, 0.24]	0.03	0.04	[-0.15, 0.23]	0.02
Age	0	[-0.01, 0.01]	0.02	0	[-0.01, 0.01]	0.01	0	[-0.01, 0.01]	0.01	0	[-0.01, 0.01]	0.01	0	[-0.01, 0.01]	0.00
Religiosity	-0.10***	[-0.16, -0.04]	-0.19	-0.09**	[-0.14, -0.04]	-0.17	-0.01	[-0.07, 0.05]	-0.02	-0.01	[-0.06, 0.05]	-0.01	-0.01	[-0.07, 0.05]	-0.02
Education	-0.03	[-0.09, 0.03]	-0.06	-0.03	[-0.09, 0.03]	-0.06	-0.02	[-0.07, 0.04]	-0.03	-0.01	[-0.06, 0.04]	-0.02	-0.01	[-0.06, 0.05]	-0.01
Intervention type (OG experience vs. IG norm)				0.24	[-0.01, 0.49]	0.11	0.12	[-0.10, 0.34]	0.06	0.13	[-0.09, 0.35]	0.06	0.09	[-0.13, 0.31]	0.04
Intervention type (control vs. IG norm)				-0.49***	[-0.74, -0.25]	-0.24	-0.50***	[-0.71, -0.29]	-0.24	-0.50***	[-0.71, -0.29]	-0.24	-0.51***	[-0.72, -0.30]	-0.24
Ideological orientation							-0.11	[-0.24, 0.03]	-0.10	-0.12	[-0.26, 0.02]	-0.11	-0.12	[-0.26, 0.02]	-0.11
Ethnic identification							0.07	[-0.06, 0.19]	0.07	0.07	[-0.05, 0.19]	0.07	0.08	[-0.04, 0.20]	0.08
Perspective taking							0.08	[-0.01, 0.18]	0.08	0.08	[-0.02, 0.18]	0.07	0.07	[-0.03, 0.17]	0.07
Threat perception							-0.26***	[-0.37, -0.14]	-0.25	-0.21*	[-0.39, -0.04]	-0.21	-0.22*	[-0.39, -0.05]	-0.22
Plausibility							0.32***	[0.22, 0.42]	0.31	0.31***	[0.21, 0.41]	0.30	0.28***	[0.12, 0.44]	0.27
Threat perception * Intervention type (OG experience vs. IG norm)										-0.14	[-0.37, 0.09]	-0.08	-0.06	[-0.31, 0.18]	-0.04
Threat perception * Intervention type (control vs. IG norm)										-0.01	[-0.23, 0.21]	0.00	-0.02	[-0.24, 0.20]	-0.01

	step 0			step 1			step 2			step 3			step 4		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
Plausibility * Intervention type (OG experience vs. IG norm)													0.21	[-0.05, 0.47]	0.11
Plausibility * Intervention type (control vs. IG norm)													-0.05	[-0.29, 0.18]	-0.03
F*(df1, df2), *p	**3.71 (4, 323), *p* = .006**			**8.64 (6, 321) , *p* < .001**			**16.36 (11, 316), *p* < .001**			**13.98 (13, 314) , *p* < .001**			**12.49 (15, 312) , *p* < .001**		
R^2 (R^2_{adj})	**.044 (.032)**			**.139 (.123)**			**.363 (.341)**			**.367 (.340)**			**.375 (.345)**		
Δ*F*(df1, df2)				**17.73 (2, 321), *p* < .001**			**22.21 (5, 316) , *p* < .001**			**0.92 (2, 314), *p* = .390)**			**2.15 (2, 312), *p* = .118**		
ΔR^2				**.095**			**.224**			**.004**			**.009**		

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

Table G9

Predictors of dual identity perception on normalized variables – Experiment 2

	step 0			step 1			step 2			step 3		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	-0.31	[-0.80, 0.18]		-0.32	[-0.84, 0.19]		-0.3	[-0.79, 0.20]		-0.37	[-0.87, 0.13]	
Gender (1 = female)	0.01	[-0.20, 0.21]	0.00	0.01	[-0.19, 0.22]	0.01	0.07	[-0.12, 0.27]	0.03	0.08	[-0.11, 0.28]	0.04
Age	0.01**	[0.01, 0.02]	0.20	0.01**	[0.01, 0.02]	0.20	0.01	[-0.00, 0.01]	0.08	0.01	[-0.00, 0.01]	0.10
Religiosity	-0.03	[-0.09, 0.02]	-0.06	-0.04	[-0.09, 0.02]	-0.06	0.03	[-0.03, 0.09]	0.05	0.03	[-0.03, 0.09]	0.06
Education	0	[-0.09, 0.09]	0.00	0	[-0.09, 0.08]	0.00	-0.03	[-0.11, 0.05]	-0.04	-0.03	[-0.11, 0.05]	-0.03
Intervention type (OG experience vs. IG norm)				0.08	[-0.15, 0.32]	0.04	0.08	[-0.13, 0.30]	0.04	0.07	[-0.14, 0.29]	0.04
Intervention type (control vs. IG norm)				-0.06	[-0.29, 0.18]	-0.03	-0.01	[-0.23, 0.21]	-0.01	-0.05	[-0.27, 0.18]	-0.02
Ideological orientation							-0.01	[-0.12, 0.10]	-0.01	-0.01	[-0.12, 0.10]	-0.01
Ethnic identification							0.03	[-0.08, 0.14]	0.03	0.04	[-0.08, 0.15]	0.03
Perspective taking							0.17**	[0.05, 0.29]	0.17	0.16**	[0.04, 0.28]	0.16
Threat perception							-0.29**	[-0.42, -0.16]	-0.29	-0.29**	[-0.42, -0.16]	-0.29
Outgroup contact							0.01	[-0.10, 0.11]	0.01	0	[-0.11, 0.11]	0.00
Plausibility							0.17**	[0.07, 0.27]	0.17	0.21*	[0.04, 0.38]	0.21
Plausibility * Intervention type (OG experience vs. IG norm)										0.07	[-0.17, 0.31]	0.04
Plausibility * Intervention type (control vs. IG norm)										-0.17	[-0.40, 0.06]	-0.10
F*(df1, df2), *p	**5.11 (4, 388), *p* = .001**			**3.64 (6, 386), *p* = .002**			**10.08 (12, 380), *p* < .001**			**9.01 (14, 378), *p* < .001**		
R^2 (R^2_{adj})	**.050 (.040)**			**.054 (.039)**			**.241 (.217)**			**.250 (.222)**		
Δ*F*(df1, df2)				**0.72 (2, 388), *p* = .487)**			**15.69 (6, 380), *p* < .001**			**2.21 (2, 378), *p* = .111**		
ΔR^2				**.004**			**.188**			**.009**		

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

Table G10

Predictors of dual identity perception on normalized variables – Experiment 3

	step 0			step 1			step 2			step 3		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	0.50*	[0.02, 0.99]		0.48	[-0.02, 0.99]		0.32	[-0.16, 0.79]		0.3	[-0.17, 0.77]	-0.01
Gender (1 = female)	0.2	[-0.01, 0.41]	0.09	0.18	[-0.03, 0.39]	0.08	-0.01	[-0.20, 0.19]	0.00	-0.03	[-0.22, 0.17]	-0.09
Age	0	[-0.01, 0.00]	-0.04	0	[-0.01, 0.00]	-0.04	-0.01	[-0.01, 0.00]	-0.09	-0.01	[-0.01, 0.00]	0.05
Religiosity	-0.04	[-0.09, 0.02]	-0.07	-0.03	[-0.08, 0.02]	-0.06	0.03	[-0.02, 0.09]	0.06	0.03	[-0.03, 0.08]	-0.10
Education	-0.10*	[-0.20, -0.01]	-0.11	-0.10*	[-0.20, -0.01]	-0.11	-0.09*	[-0.18, -0.01]	-0.10	-0.09*	[-0.17, -0.00]	0.16
Intervention type (OG experience vs. IG norm)				0.14	[-0.10, 0.38]	0.07	0.29**	[0.07, 0.51]	0.14	0.33**	[0.11, 0.56]	0.01
Intervention type (control vs. IG norm)				-0.13	[-0.37, 0.11]	-0.06	0.07	[-0.15, 0.29]	0.03	0.03	[-0.20, 0.25]	-0.06
Ideological orientation							-0.07	[-0.18, 0.04]	-0.06	-0.06	[-0.17, 0.05]	-0.03
Ethnic identification							-0.04	[-0.16, 0.09]	-0.04	-0.03	[-0.16, 0.09]	0.02
Perspective taking							0.05	[-0.06, 0.16]	0.05	0.02	[-0.10, 0.13]	-0.19
Threat perception							-0.20**	[-0.31, -0.08]	-0.19	-0.19**	[-0.31, -0.08]	0.15
Outgroup contact							0.15**	[0.05, 0.25]	0.15	0.15**	[0.06, 0.25]	0.39
Plausibility							0.33**	[0.23, 0.43]	0.32	0.40**	[0.23, 0.58]	0.05
Plausibility * Intervention type (OG experience vs. IG norm)										0.09	[-0.14, 0.31]	-0.16
Plausibility * Intervention type (control vs. IG norm)										-0.29*	[-0.53, -0.05]	-0.01
F*(df1, df2), *p	**3.35 (4, 382), *p* = .010**			**3.09 (6, 380), *p* = .006**			**11.35 (12, 374), *p* < .001**			**10.78 (14, 372), *p* < .001**		
R^2 (R^2_{adj})	**.034 (.023)**			**.047 (.031)**			**.267 (.243)**			**.289 (.262)**		
Δ*F*(df1, df2)				**2.52 (2, 380), *p* = .081**			**18.74 (6, 374), *p* < .001**			**5.69 (2, 372), *p* = .004**		
ΔR^2				**.013**			**.220**			**.022**		

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

Appendix H: Intercorrelation differences between conditions, experiments 1-3

Table H1

Correlations between individual differences and plausibility assessment of two experimental conditions (Experiments 1-3)

	Experiment 1		**Experiment 2**		**Experiment 3**	
	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience	Ingroup norm	Outgroup experience
Ideological orientation	.04 [-.11, .20]	-.24* [-.39, -.08]	-.13 [-.27, .02]	-.05 [-.2, .09]	-.10 [-.24, .05]	-.24** [-.37, -.10]
Ethnic identification	**.22* [.07, .36]**	**-.23* [-.38, -.07]**	-.16 [-.3, -.02]	-.12 [-.26, .02]	.06 [-.08, .21]	-.13 [-.27, .02]
Perspective taking	**-.05 [-.21, .10]**	**.31** [.15, .45]**	.43*** [.30, .54]	.25** [.11, .38]	.38*** [.24, .50]	.37*** [.24, .49]
Threat perception	**-.14 [-.29, .01]**	**-.49*** [-.61, -.36]**	-.42*** [-.54, -.29]	-.23** [-.36, -.09]	-.31*** [-.44, -.17]	-.25** [-.38, -.10]
Outgroup contact	/	/	.27** [.13, .40]	.21* [.07, .34]	.05 [-.09, .20]	.04 [-.10, .18]

Note. 90% confidence intervals are given in brackets. Bolded are the correlations that differ between the conditions.
Note. ***p < .001, **p < .01, *p < .05

Table H2

Correlations between individual differences and dual identity perception (Experiments 1-3)

	Experiment 1			**Experiment 2**			**Experiment 3**		
	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control	Ingroup norm	Outgroup experience	Control
Ideological orientation	-.21* [-.35, -.06]	-.27** [-.42, -.11]	-.41*** [-.53, -.27]	-.11 [-.26, .03]	-.22** [-.36, -.08]	-.20* [-.34, -.06]	-.24** [-.38, -.10]	-.25** [-.38, -.11]	-.07 [-.22, .07]
Ethnic identification	.04 [-.11, .19]	-.19 [-.35, -.03]	-.22* [-.36, -.07]	-.13 [-.27, .02]	-.22** [-.36, -.08]	-.06 [-.20, .08]	-.09 [-.24, .06]	-.09 [-.23, .05]	-.08 [-.22, .07]
Perspective taking	.18 [.02, .32]	.30** [.14, .44]	.28** [.13, .41]	.45*** [.32, .56]	.38*** [.25, .49]	.29*** [.15, .42]	.35*** [.21, .47]	.34*** [.21, .46]	.20* [.05, .33]
Threat perception	-.33*** [-.46, -.18]	-.62*** [-.71, -.51]	-.44*** [-.56, -.31]	-.47*** [-.58, -.35]	-.40*** [-.51, -.27]	-.41*** [-.53, -.29]	-.33*** [-.45, -.19]	-.34*** [-.46, -.20]	-.26** [-.39, -.12]
Outgroup contact	/	/	/	.18* [.03, .32]	.31*** [.18, .43]	.19* [.05, .33]	.15 [0, .29]	.12 [-.03, .26]	.19* [.04, .32]
Plausibility	**.32*** [.17, .45]**	**.61*** [.50, .71]**	**.36*** [.21, .49]**	**.39*** [.26, .51]**	**.40*** [.28, .52]**	**.09 [-.05, .23]**	**.45*** [.32, .56]**	**.63*** [.53, .71]**	**.07 [-.07, .22]**

Note. 90% confidence intervals are given in brackets. Bolded are the correlations that differ between the conditions.
Note. ***p < .001, **p < .01, *p < .05.

Appendix I: Regression analyses detiails – experiments 1-3

Detailed results of the regression analyses of plausibility assessment predictors are given in tables I1 – I3. The results of the regression analyses of dual identity predictors are detailed in tables I4 – I6.

Predictors of plausibility assessment

Table I1

Predictors of plausibility assessment in Experiment 1 – detailed hierarchical linear regression results

	step 0			step 1			step 2			step 3			step 4			Step 5		
		b			*b*			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	4.51***	[4.00, 5.02]		0.13	[-0.09, 0.36]		4.21***	[3.68, 4.73]		4.15***	[3.64, 4.67]		4.11***	[3.59, 4.63]		4.12***	[3.59, 4.64]	
Gender (1 = female)	0.12	[-0.11, 0.34]	0.06	0	[-0.00, 0.01]	0.07	0.12	[-0.11, 0.35]	0.06	0.14	[-0.08, 0.37]	0.07	0.13	[-0.10, 0.35]	0.06	0.13	[-0.10, 0.35]	0.06
Age	0	[-0.00, 0.01]	0.05	-0.05	[-0.11, 0.00]	0.06	0	[-0.00, 0.01]	0.06	0	[-0.00, 0.01]	0.05	0	[-0.00, 0.01]	0.06	0	[-0.00, 0.01]	0.06
Religiosity	-0.05	[-0.11, 0.00]	-0.10	-0.01	[-0.08, 0.05]	-0.10	-0.03	[-0.10, 0.04]	-0.05	-0.03	[-0.09, 0.04]	-0.05	-0.02	[-0.09, 0.05]	-0.04	-0.03	[-0.09, 0.04]	-0.05
Education	-0.01	[-0.08, 0.05]	-0.02	0.39**	[0.12, 0.66]	-0.02	0	[-0.06, 0.06]	0	0.01	[-0.05, 0.08]	0.02	0.02	[-0.05, 0.08]	0.03	0.02	[-0.04, 0.08]	0.03
Intervention type (OG experience vs. IG norm)				0.01	[-0.25, 0.27]	0.18	0.39**	[0.13, 0.65]	0.18	0.39**	[0.14, 0.65]	0.18	0.39**	[0.14, 0.65]	0.18	0.40**	[0.14, 0.66]	0.18
Intervention type (control vs. IG norm)				0.13	[-0.09, 0.36]	0	0.01	[-0.24, 0.27]	0.01	0	[-0.25, 0.25]	0	0	[-0.25, 0.25]	0	0	[-0.24, 0.25]	0
Ideological orientation							-0.01	[-0.06, 0.05]	-0.02	0	[-0.06, 0.05]	-0.01	-0.01	[-0.06, 0.04]	-0.03	-0.01	[-0.06, 0.04]	-0.03
Ethnic identification							0.09*	[0.01, 0.17]	0.15	0.21***	[0.10, 0.32]	0.36	0.21***	[0.09, 0.32]	0.36	0.20***	[0.09, 0.32]	0.36
Perspective taking							0.04	[-0.07, 0.15]	0.04	0.03	[-0.08, 0.14]	0.03	0.02	[-0.09, 0.13]	0.02	-0.08	[-0.25, 0.09]	-0.08
Threat perception							-0.18***	[-0.27, -0.09]	-0.27	-0.19***	[-0.27, -0.10]	-0.27	-0.18*	[-0.32, -0.04]	-0.27	-0.20**	[-0.34, -0.06]	-0.29
Ethnic identification * Intervention type (OG experience vs. IG norm)										-0.25***	[-0.39, -0.10]	-0.24	-0.21**	[-0.37, -0.06]	-0.21	-0.21**	[-0.36, -0.05]	-0.20
Ethnic identification * Intervention type (control vs. IG norm)										-0.14	[-0.28, 0.01]	-0.13	-0.16*	[-0.32, -0.01]	-0.16	-0.16*	[-0.31, -0.00]	-0.16
Threat perception * Intervention type													-0.1	[-0.29, 0.09]	-0.08	-0.05	[-0.26, 0.15]	-0.04

	step 0			step 1			step 2			step 3			step 4			Step 5		
	b			*b*			*b*			*b*			*b*			*b*		
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(OG experience vs. IG norm)																		
Threat perception * Intervention type (control vs. IG norm)													0.08	[-0.11, 0.27]	0.07	0.11	[-0.09, 0.30]	0.09
Perspective taking * Intervention type (OG experience vs. IG norm)																0.18	[-0.08, 0.43]	0.11
Perspective taking * Intervention type (control vs. IG norm)																0.15	[-0.11, 0.42]	0.08
F*(df1, df2), *p	**1.33 (4, 323), *p* = .257**			**2.63 (6, 321), *p* = .017**			**4.15 (10, 317), *p* < .001**			**4.50 (12, 315), *p* < .001**			**4.11 (14, 313), *p* < .001**			**3.74 (16, 311), *p* < .001**		
R^2 (R^2_{adj})	**.016 (.004)**			**.047 (.029)**			**.116 (.088)**			**.146 (.114)**			**.155 (.118)**			**.161 (.118)**		
Δ*F*(df1, df2), *p*				**5.15 (2, 321), *p* = .006**			**6.19 (4, 317), *p* < .001**			**5.62 (2, 315), *p* =.004**			**1.66 (2, 313), *p* = .192**			**1.10 (2, 311), *p* = .334**		
ΔR^2				**.031**			**.069**			**.030**			**.009**			**.006**		

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

Table I2

Predictors of plausibility assessment in Experiment 2 – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	4.24***	[3.73, 4.76]		4.42***	[3.90, 4.94]		4.63***	[4.09, 5.18]	
Gender (1 = female)	0.08	[-0.13, 0.30]	0.04	0.09	[-0.12, 0.30]	0.04	0.15	[-0.06, 0.37]	0.07
Age	0.01*	[0.00, 0.02]	0.12	0.01*	[0.00, 0.02]	0.12	0	[-0.00, 0.01]	0.05
Religiosity	-0.08*	[-0.14, -0.01]	-0.13	-0.08**	[-0.14, -0.02]	-0.13	-0.08*	[-0.14, -0.01]	-0.13
Education	-0.01	[-0.10, 0.08]	-0.01	-0.01	[-0.09, 0.08]	-0.01	-0.03	[-0.12, 0.06]	-0.03
Intervention type (OG experience vs. IG norm)				0.04	[-0.20, 0.28]	0.02	0.04	[-0.20, 0.27]	0.02
Intervention type (control vs. IG norm)				-0.59***	[-0.83, -0.35]	-0.27	-0.63***	[-0.87, -0.39]	-0.29
Ideological orientation							0.01	[-0.03, 0.05]	0.03
Ethnic identification							0.08	[-0.00, 0.16]	0.11
Perspective taking							0.08	[-0.02, 0.17]	0.10
Threat perception							-0.10*	[-0.18, -0.01]	-0.15
Outgroup contact							0.07	[-0.04, 0.19]	0.07
F*(df1, df2), *p	**3.87 (4, 388), *p* = .004**			**8.55 (6, 386), *p* < .001**			**6.90 (11, 381), *p* < .001**		
R^2 (R^2_{adj})	**.038 (.028)**			**.117 (.104)**			**.166 (.142)**		
Δ*F*(df1, df2)				**17.27 (2, 386), *p* < .001**			**4.46 (5, 381), *p* = .001**		
ΔR^2				**.079**			**.049**		

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

Table I3

Predictors of plausibility assessment in Experiment 3 – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**			**step 3**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	4.44***	[3.90, 4.98]		4.83***	[4.28, 5.37]		4.84***	[4.28, 5.39]		4.81***	[4.25, 5.36]	
Gender (1 = female)	0.23	[-0.01, 0.47]	0.10	0.23	[-0.01, 0.46]	0.09	0.17	[-0.06, 0.41]	0.07	0.17	[-0.07, 0.40]	0.07
Age	0	[-0.01, 0.01]	0.00	0	[-0.01, 0.01]	-0.01	0	[-0.01, 0.01]	0.00	0	[-0.01, 0.01]	0.00
Religiosity	0	[-0.06, 0.06]	0.00	-0.01	[-0.06, 0.05]	-0.01	0.01	[-0.06, 0.07]	0.01	0.01	[-0.06, 0.08]	0.01
Education	-0.18**	[-0.28, -0.07]	-0.17	-0.16**	[-0.26, -0.06]	-0.15	-0.19***	[-0.29, -0.08]	-0.18	-0.18***	[-0.28, -0.08]	-0.18
Intervention type (OG experience vs. IG norm)				-0.50***	[-0.76, -0.24]	-0.21	-0.44***	[-0.70, -0.19]	-0.19	-0.44***	[-0.70, -0.19]	-0.19
Intervention type (control vs. IG norm)				-0.68***	[-0.94, -0.42]	-0.29	-0.65***	[-0.90, -0.40]	-0.28	-0.65***	[-0.90, -0.39]	-0.28
Ideological orientation							-0.02	[-0.06, 0.02]	-0.05	-0.01	[-0.07, 0.05]	-0.02
Ethnic identification							0.10*	[0.01, 0.20]	0.13	0.11*	[0.01, 0.20]	0.14
Perspective taking							0.11*	[0.01, 0.21]	0.14	0.11*	[0.01, 0.21]	0.14
Threat perception							-0.10*	[-0.18, -0.01]	-0.14	-0.09*	[-0.18, -0.01]	-0.14
Outgroup contact							-0.01	[-0.13, 0.12]	0.00	-0.01	[-0.14, 0.12]	-0.01
Ideological orientation * Intervention type (OG experience vs. IG norm)										-0.05	[-0.13, 0.03]	-0.08
Ideological orientation * Intervention type (control vs. IG norm)										0.02	[-0.07, 0.10]	0.03
F*(df1, df2), *p	**4.29 (4, 382), $p = .001$**			**7.77 (6, 380), $p < .001$**			**6.84 (11, 375), $p < .001$**			**5.99 (13, 373), $p < .001$**		
R^2 (R^2_{adj})	**.043 (.033)**			**.109 (.095)**			**.167 (.143)**			**.173 (.144)**		
Δ*F*(df1, df2)				**14.13 (2, 380), $p < .001$**			**5.20 (5, 375), $p < .001$**			**1.27 (2, 373), $p = .281$**		
ΔR^2				**.066**			**.058**			**.006**		

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

Predictors of dual identity perception

Table I4

Predictors of dual identity perception in Experiment 1 – detailed hierarchical linear regression results

	step 0			step 1			step 2			step 3			step 4		
		b			*b*			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	60.87***	[48.49, 73.24]		62.25***	[49.95, 74.54]		55.78**	[45.11, 66.46]		55.23**	[44.43, 66.03]		55.09**	[44.30, 65.88]	
Gender (1 = female)	4.06	[-1.47, 9.59]	0.08	4.91	[-0.35, 10.18]	0.10	1.69	[-2.96, 6.35]	0.03	1.57	[-3.09, 6.23]	0.03	1.25	[-3.43, 5.94]	0.03
Age	0.02	[-0.18, 0.23]	0.01	0.02	[-0.18, 0.21]	0.01	0	[-0.16, 0.17]	0.00	0	[-0.17, 0.16]	0.00	-0.01	[-0.17, 0.16]	0.00
Religiosity	-2.55***	[-3.96, -1.15]	-0.20	-2.28***	[-3.63, -0.94]	-0.17	-0.12	[-1.50, 1.26]	-0.01	-0.02	[-1.41, 1.36]	0.00	-0.08	[-1.48, 1.32]	-0.01
Education	-0.67	[-2.26, 0.91]	-0.05	-0.67	[-2.17, 0.84]	-0.05	-0.17	[-1.45, 1.11]	-0.01	-0.07	[-1.35, 1.21]	0.00	0.05	[-1.25, 1.35]	0.00
Intervention type (OG experience vs. IG norm)				6.34*	[0.05, 12.64]	0.12	3.68	[-1.71, 9.07]	0.07	3.75	[-1.64, 9.14]	0.07	2.9	[-2.58, 8.38]	0.05
Intervention type (control vs. IG norm)				-12.44***	[-18.53, -6.34]	-0.24	-12.49***	[-17.65, -7.34]	-0.24	-12.61***	[-17.76, -7.46]	-0.24	-12.62***	[-17.79, -7.44]	-0.24
Ideological orientation							-0.98	[-2.08, 0.11]	-0.11	-1.05	[-2.16, 0.05]	-0.12	-1.1	[-2.20, 0.01]	-0.13
Ethnic identification							1.55	[-0.05, 3.16]	0.11	1.58	[-0.03, 3.18]	0.11	1.71*	[0.10, 3.33]	0.12
Perspective taking							1.79	[-0.46, 4.04]	0.08	1.58	[-0.68, 3.84]	0.07	1.51	[-0.76, 3.78]	0.06
Threat perception							-5.27***	[-7.15, -3.40]	-0.31	-4.12**	[-6.90, -1.34]	-0.24	-4.22**	[-7.03, -1.41]	-0.25
Plausibility							7.36***	[5.11, 9.62]	0.30	7.10***	[4.83, 9.37]	0.29	6.25***	[2.55, 9.95]	0.25

	step 0			step 1			step 2			step 3			step 4		
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
Threat perception * Intervention type (OG experience vs. IG norm)										-3.08	[-6.78, 0.62]	-0.10	-1.94	[-5.90, 2.02]	-0.06
Threat perception * Intervention type (control vs. IG norm)										-0.75	[-4.33, 2.83]	-0.03	-0.8	[-4.42, 2.82]	-0.03
Plausibility * Intervention type (OG experience vs. IG norm)													4.33	[-1.71, 10.36]	0.09
Plausibility * Intervention type (control vs. IG norm)													-0.39	[-5.66, 4.87]	-0.01
F*(df1, df2), *p	**3.74 (4, 323), *p* = .005**			**8.78 (6, 321), *p* < .001**			**18.96 (11, 316), *p* < .001**			**16.31 (13, 314), *p* < .001**			**14.35 (15, 312), *p* < .001**		
R^2 (R^2_{adj})	**.044 (.032)**			**.141 (.125)**			**.398 (.377)**			**.403 (.378)**			**.408 (.380)**		
Δ*F*(df1, df2)				**18.08 (2, 321), *p* < .001**			**26.93 (5, 321), *p* < .001**			**1.45 (2, 314), *p* = .237**			**1.36 (2, 312), *p* = .259**		
ΔR^2				**.097**			**.257**			**.005**			**.005**		

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

Table I5

Predictors of dual identity perception in Experiment 2 – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**			**step 3**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	36.81***	[22.98, 50.64]		36.50***	[22.07, 50.93]		37.96***	[23.98, 51.95]		35.35***	[21.29, 49.40]	
Gender (1 = female)	0.37	[-5.45, 6.19]	0.01	0.55	[-5.29, 6.39]	0.01	2.22	[-3.33, 7.77]	0.04	2.5	[-3.03, 8.04]	0.04
Age	0.38***	[0.17, 0.58]	0.20	0.38***	[0.18, 0.59]	0.20	0.14	[-0.06, 0.35]	0.07	0.17	[-0.04, 0.37]	0.09
Religiosity	-0.82	[-2.44, 0.81]	-0.05	-0.85	[-2.47, 0.77]	-0.05	0.93	[-0.73, 2.59]	0.06	1.11	[-0.55, 2.77]	0.07
Education	-0.28	[-2.76, 2.19]	-0.01	-0.3	[-2.77, 2.18]	-0.01	-1.12	[-3.39, 1.15]	-0.05	-1.04	[-3.30, 1.23]	-0.04
Intervention type (OG experience vs. IG norm)				2.63	[-4.05, 9.32]	0.05	2.27	[-3.77, 8.31]	0.04	1.64	[-4.50, 7.78]	0.03
Intervention type (control vs. IG norm)				-2.2	[-8.89, 4.49]	-0.04	-1.19	[-7.46, 5.08]	-0.02	-2.14	[-8.43, 4.14]	-0.04
Ideological orientation							-0.28	[-1.23, 0.67]	-0.03	-0.34	[-1.29, 0.61]	-0.04
Ethnic identification							1.02	[-1.08, 3.12]	0.05	1.09	[-1.00, 3.18]	0.05
Perspective taking							2.93*	[0.46, 5.40]	0.14	2.71*	[0.24, 5.18]	0.13
Threat perception							-5.42***	[-7.63, -3.22]	-0.32	-5.35***	[-7.55, -3.15]	-0.31
Outgroup contact							0.24	[-2.71, 3.20]	0.01	-0.08	[-3.03, 2.87]	0.00
Plausibility							4.49**	[1.90, 7.07]	0.17	5.79*	[1.25, 10.32]	0.22
Plausibility * Intervention type (OG experience vs. IG norm)										3.17	[-3.45, 9.78]	0.06
Plausibility * Intervention type (control vs. IG norm)										-4.62	[-10.46, 1.22]	-0.11
F*(df1, df2), *p	**4.58 (4, 388), *p* = .001**			**3.41 (6, 386), *p* = .003**			**10.08 (12, 380), *p* < .001**			**9.19 (14, 378), *p* < .001**		
R^2 (R^2_{adj})	**.045 (.035)**			**.050 (.036)**			**.241 (.218)**			**.254 (.226)**		
Δ*F*(df1, df2)				**1.046 (2, 386), *p* = .352**			**15.97 (6, 380), *p* < .001**			**3.18 (2, 378), *p* = .043**		
ΔR^2				**.005**			**.191**			**.013**		

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

Table I6

Predictors of dual identity perception in Experiment 3 – detailed hierarchical linear regression results

	step 0			**step 1**			**step 2**			**step 3**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	49.26***	[36.32, 62.20]		48.77***	[35.34, 62.19]		44.66***	[32.00, 57.31]		43.90***	[31.43, 56.38]	-0.02
Gender (1 = female)	4.6	[-1.09, 10.29]	0.08	3.97	[-1.71, 9.66]	0.07	-0.69	[-6.01, 4.64]	-0.01	-1.4	[-6.61, 3.82]	-0.09
Age	-0.12	[-0.33, 0.08]	-0.06	-0.11	[-0.32, 0.09]	-0.06	-0.19	[-0.38, 0.01]	-0.09	-0.18	[-0.37, 0.01]	0.04
Religiosity	-0.79	[-2.20, 0.62]	-0.06	-0.69	[-2.10, 0.72]	-0.05	0.73	[-0.78, 2.24]	0.05	0.53	[-0.95, 2.02]	-0.10
Education	-2.90*	[-5.43, -0.36]	-0.12	-2.83*	[-5.36, -0.31]	-0.12	-2.69*	[-5.00, -0.38]	-0.11	-2.42*	[-4.68, -0.16]	0.17
Intervention type (OG experience vs. IG norm)				3.98	[-2.43, 10.38]	0.07	8.18**	[2.33, 14.04]	0.15	9.67**	[3.79, 15.55]	0.00
Intervention type (control vs. IG norm)				-4.05	[-10.43, 2.32]	-0.07	0.83	[-5.05, 6.70]	0.01	-0.13	[-6.02, 5.76]	-0.07
Ideological orientation							-0.62	[-1.50, 0.26]	-0.07	-0.56	[-1.42, 0.30]	0.03
Ethnic identification							0.55	[-1.58, 2.69]	0.03	0.58	[-1.53, 2.68]	0.02
Perspective taking							1.3	[-0.92, 3.52]	0.07	0.42	[-1.79, 2.63]	-0.21
Threat perception							-3.28***	[-5.15, -1.41]	-0.21	-3.24***	[-5.07, -1.41]	0.14
Outgroup contact							3.69*	[0.85, 6.53]	0.13	3.94**	[1.16, 6.72]	0.41
Plausibility							7.15***	[4.87, 9.43]	0.30	9.69***	[5.33, 14.04]	0.06
Plausibility * Intervention type (OG experience vs. IG norm)										2.58	[-2.92, 8.09]	-0.21
Plausibility * Intervention type (control vs. IG norm)										-8.41**	[-13.96, -2.86]	-0.02
F*(df1, df2), *p	**3.40 (4, 382), *p* = .009**			**3.33 (6, 380), *p* = .003**			**11.09 (12, 374), *p* < .001**			**11.36 (14, 372), *p* < .001**		
R^2 (R^2_{adj})	**.034 (.024)**			**.050 (.035)**			**.262 (.239)**			**.299 (.273)**		
Δ*F*(df1, df2)				**3.10 (2, 380), *p* = .046**			**17.96 (6, 374), *p* < .001**			**9.81 (2, 372), *p* < .001**		
ΔR^2				**.016**			**.213**			**.037**		

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

Appendix J: Sensitivity analysis – inferential analyses on normalized variables, experiments 4 and 5

Plausibility and manipulation check

Table J1

Results of plausibility check – normalized variables, experiments 3.1 and 3.2

		Mean	ANOVA model	IG norm – OG experience contrast	
			F (df1, df2)	t (df)	*d* [95% CI]
Experiment 4 (Serbia)	Ingroup norm	$M = 0$	3.41 (2, 437), $p = .034$	-1.177 (437), $p = .240$	-.13 [-.36, .09]
	Outgroup experience	$M = 0.13$			
Experiment 5 (FBH)	Ingroup norm	$M = 0.05$	0.79 (2, 345), $p = .456$	0.239 (390), $p = .811$	.03 [-.23, .29]
	Outgroup experience	$M = 0.02$			

Table J2

Results of manipulation check – normalized variables, experiments 4 and 5

	ANOVA model	IG norm vs. control		OG experience vs. control	
	F (df1, df2)	t (df)	*d* [95% CI]	t (df)	*d* [95% CI]
Experiment 4 (Serbia)	16.66 (2, 437), $p < .001$	4.08 (437), $p < .001$	.46 [.23, .69]	5.61 (437), $p < .001$	.68 [.44, .92]
Experiment 5 (FBH)	3.86 (2, 345), $p = .022$	0.83 (345), $p = .405$	.11 [-.15, .36]	2.71 (345), $p = .007$	.37 [.11, .63]

Testing H7

Table J3

Testing the between-conditions differences in outcome variables, normalized variables

	Experiment 4 (Serbia)	Experiment 5 (FBH)
	F (df1, df2)	F (df1, df2)
GG as a bridge	1.323 (2, 437), $p = .267$	0.823 (2, 345), $p = .440$
Ingroup-outgroup overlap	3.312 (2, 437), $p = .037$	1.091 (2, 345), $p = .337$
Social closeness	0.107 (2, 437), $p = .898$	2.125 (2, 345), $p = .121$
Outgroup feelings	0.273 (2, 437), $p = .761$	.087 (2, 345), $p = .917$
Reconciliation intentions	0.695 (2, 437), $p = .500$	1.133 (2, 345), $p = .323$

Note. Social closeness represents reversely coded social distance scale.

Testing H7, controlling for demographics and individual differences

Table J4

The effects of interventions on measures of intergroup bias, controlling for demographic variables and individual differences, normalized variables

	Experiment 4		Experiment 5	
	Covariates	Covariates + intervention	Covariates	Covariates + intervention
GG as a bridge	$F(10,429) = 14.29$, $R^2_{adj} = .23$***	$\Delta F(2,427) = 2.00$, $\Delta R^2 = .007$	$F(10,337) = 11.77$, $R^2_{adj} = .24$***	$\Delta F(2,335) = 1.72$, $\Delta R^2 = .008$
Ingroup-outgroup overlap	$F(10,429) = 11.66$, $R^2_{adj} = .20$***	$\Delta F(2,427) = 5.54$, $\Delta R^2 = .014$*	$F(10,337) = 11.11$, $R^2_{adj} = .23$***	$\Delta F(2,335) = 1.09$, $\Delta R^2 = .005$
Social closeness	$F(10,429) = 31.95$, $R^2_{adj} = .41$***	$\Delta F(2,427) = 0.16$, $\Delta R^2 = .00$	$F(10,337) = 40.29$, $R^2_{adj} = .53$***	$\Delta F(2,335) = 0.03$, $\Delta R^2 = .000$
Outgroup feelings	$F(10,429) = 19.41$, $R^2_{adj} = .29$***	$\Delta F(2,427) = 0.81$, $\Delta R^2 = .003$	$F(10,337) = 24.47$, $R^2_{adj} = .40$***	$\Delta F(2,335) = 2.46$, $\Delta R^2 = .008$
Reconciliation intentions	$F(10,429) = 26.45$, $R^2_{adj} = .37$***	$\Delta F(2,427) = 0.78$, $\Delta R^2 = .002$	$F(10,337) = 38.60$, $R^2_{adj} = .52$***	$\Delta F(2,335) = 0.74$, $\Delta R^2 = .002$

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

Testing H8

Table J5

Predictors of outgroup attitude, normalized variables – Experiment 4

	step 1			step 2			step 3		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	-0.04	[-0.37, 0.29]		-0.02	[-0.37, 0.32]	-0.06	-0.02	[-0.37, 0.32]	-0.06
Gender (1 = female)	-0.13	[-0.30, 0.04]	-0.05	-0.13	[-0.30, 0.04]	0.01	-0.15	[-0.32, 0.02]	0.01
Age	0	[-0.00, 0.01]	0.01	0	[-0.00, 0.01]	-0.01	0	[-0.00, 0.01]	-0.01
Religiosity	0	[-0.05, 0.04]	-0.01	0	[-0.05, 0.04]	0.04	0	[-0.05, 0.04]	0.04
Education	0.03	[-0.02, 0.08]	0.04	0.03	[-0.03, 0.08]	-0.09	0.02	[-0.03, 0.08]	-0.10
Ideological orientation	-0.09	[-0.19, 0.01]	-0.09	-0.09	[-0.19, 0.01]	-0.02	-0.11*	[-0.21, -0.01]	-0.01
Ethnic identification	-0.03	[-0.12, 0.07]	-0.02	-0.03	[-0.12, 0.07]	0.22	-0.01	[-0.11, 0.08]	0.21
Perspective taking	0.22***	[0.14, 0.30]	0.22	0.22***	[0.14, 0.30]	-0.49	0.21***	[0.13, 0.29]	-0.48
Threat perception	-0.49***	[-0.58, -0.41]	-0.49	-0.50***	[-0.59, -0.41]	0.07	-0.49***	[-0.58, -0.40]	-0.03
Outgroup contact	0.07	[-0.00, 0.15]	0.07	0.07	[-0.00, 0.15]	-0.02	-0.03	[-0.17, 0.10]	-0.01
Plausibility	-0.04	[-0.37, 0.29]	-0.05	-0.03	[-0.20, 0.14]	0.00	-0.02	[-0.19, 0.15]	0.00
Intervention type (IG norm vs. control)				0.01	[-0.16, 0.18]	-0.06	0.01	[-0.16, 0.18]	0.04
Intervention type (OG experience vs. control)				-0.02	[-0.37, 0.32]	0.01	0.07	[-0.11, 0.26]	0.13
Plausibility * Intervention type (IG norm vs. control)							0.22*	[0.04, 0.40]	-0.06
Plausibility * Intervention type (OG experience vs. control)							-0.02	[-0.37, 0.32]	0.01
F*(df1, df2), *p	**42.60 (9, 430), $p < .001$**			**34.74 (11, 428), $p < .001$**			**30.12 (13, 426), $p < .001$**		
R^2 (R^2_{adj})	**.471 (.460)**			**.472 (.458)**			**.479 (.463)**		
Δ*F*(df1, df2)				**0.14 (2, 428), $p = .873$**			**2.96 (2, 426), $p = .053$**		
ΔR^2				**.000**			**.007**		

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

Table J6

Predictors of outgroup attitude, normalized variables – Experiment 5

	step 1			**step 2**			**step 3**		
	b	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β	*b*	*b* 95% CI [LL, UL]	β
(Intercept)	0.18	[-0.15, 0.51]		0.24	[-0.11, 0.59]	0.09	0.24	[-0.10, 0.59]	0.09
Gender (1 = female)	0.17*	[0.03, 0.32]	0.08	0.19*	[0.04, 0.33]	-0.01	0.20*	[0.05, 0.34]	-0.01
Age	0	[-0.01, 0.00]	-0.01	0	[-0.01, 0.00]	-0.04	0	[-0.01, 0.00]	-0.05
Religiosity	-0.02	[-0.07, 0.03]	-0.04	-0.02	[-0.07, 0.02]	-0.06	-0.03	[-0.07, 0.02]	-0.06
Education	-0.03	[-0.08, 0.01]	-0.05	-0.04	[-0.08, 0.01]	-0.12	-0.04	[-0.08, 0.01]	-0.11
Ideological orientation	-0.13**	[-0.21, -0.05]	-0.12	-0.13**	[-0.21, -0.05]	-0.09	-0.12**	[-0.20, -0.04]	-0.08
Ethnic identification	-0.09	[-0.18, 0.00]	-0.08	-0.09*	[-0.19, -0.00]	0.37	-0.09	[-0.18, 0.01]	0.37
Perspective taking	0.36**	[0.28, 0.45]	0.37	0.37**	[0.28, 0.45]	-0.27	0.37**	[0.28, 0.45]	-0.26
Threat perception	-0.27**	[-0.36, -0.17]	-0.27	-0.27**	[-0.36, -0.17]	0.26	-0.27**	[-0.36, -0.17]	0.19
Outgroup contact	0.27**	[0.19, 0.34]	0.26	0.27**	[0.19, 0.34]	-0.05	0.19**	[0.06, 0.33]	-0.05
Plausibility	0.18	[-0.15, 0.51]	0.08	-0.11	[-0.28, 0.05]	-0.02	-0.1	[-0.27, 0.06]	-0.01
Intervention type (IG norm vs. control)				-0.03	[-0.19, 0.13]	0.09	-0.03	[-0.19, 0.13]	0.03
Intervention type (OG experience vs. control)				0.24	[-0.11, 0.59]	-0.01	0.05	[-0.13, 0.22]	0.10
Plausibility * Intervention type (IG norm vs. control)							0.18	[-0.01, 0.36]	0.09
Plausibility * Intervention type (OG experience vs. control)							0.24	[-0.10, 0.59]	-0.01
F*(df1, df2), *p	**60.20 (9, 338), *p* < .001**			**49.41 (11, 336), *p* < .001**			**42.39 (13, 334), *p* < .001**		
R^2 (R^2_{adj})	**.616 (.606)**			**.618 (.606)**			**.623 (.608)**		
Δ*F*(df1, df2)				**0.96 (2, 336), *p* = .385**			**2.05 (2, 334), *p* = .130**		
ΔR^2				**.002**			**.005**		

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

Appendix K: Intercorrelations split by experimental condition – Experiments 4 and 5

Intercorrelations between the variables in Experiments 4 are shown in Tables K1 – K3, whilst intercorrelations in Experiment 5 are in Tables K4 – K6. Each table contains intercorrelations within one experimental condition (ingroup norm, outgroup experience, or control condition).

Table K1

Intercorrelations between variables, Ingroup norm condition, Experiment 4

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.55***											
3. Perspective taking	-.40***	-.11										
4. Threat perception	.43***	.19*	-.52***									
5. Contact	-.03	-.05	.12	.07								
6. Plausibility	-.01	.14	.06	-.22**	.13							
7. Dual identity perception	-.20*	.01	.18*	-.42***	-.02	.33***						
8. GG as a bridge	-.26**	-.02	.32***	-.42***	-.11	.11	.46***					
9. Ingroup-outgroup overlap	-.32***	-.23**	.33***	-.52***	.12	.27***	.44***	.37***				
10. Social closeness	-.32***	-.11	.37***	-.62***	-.06	.17*	.46***	.34***	.52***			
11. Outgroup feelings	-.30***	.05	.31***	-.52***	.05	.17*	.46***	.32***	.43***	.61***		
12. Reconciliation intentions	-.39***	-.23**	.40***	-.58***	.06	.19*	.35***	.32***	.49***	.60***	.55***	
13. Outgroup attitude	-.40***	-.12	.42***	-.68***	.02	.21**	.49***	.39***	.56***	.87***	.84***	.84***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Table K2

Intercorrelations between variables, Outgroup experience condition, Experiment 4

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.47***											
3. Perspective taking	-.22**	-.04										
4. Threat perception	.33***	.19*	-.56***									
5. Contact	.13	.12	.20*	-.05								
6. Plausibility	-.02	.02	.20*	-.37***	-.05							
7. Dual identity perception	-.12	-.1	.19*	-.42***	-.11	.54***						
8. GG as a bridge	-.03	.03	.33***	-.49***	.12	.54***	.50***					
9. Ingroup-outgroup overlap	-.04	-.01	.37***	-.42***	.14	.39***	.34***	.41***				
10. Social closeness	-.20*	-.22**	.46***	-.64***	.04	.35***	.39***	.47***	.43***			
11. Outgroup feelings	-.23**	-.09	.51***	-.65***	.21**	.31***	.39***	.54***	.38***	.60***		
12. Reconciliation intentions	-.28***	-.18*	.53***	-.65***	.05	.52***	.45***	.56***	.41***	.68***	.61***	
13. Outgroup attitude	-.27***	-.19*	.57***	-.75***	.11	.45***	.47***	.60***	.47***	.88***	.84***	.88***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Table K3

Intercorrelations between variables, Control condition, Experiment 4

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.42***											
3. Perspective taking	-.37***	-.12										
4. Threat perception	.44***	.27**	-.46***									
5. Contact	-.13	-.02	.28***	-.13								
6. Plausibility	-.04	.17*	-.02	-.04	.00							
7. Dual identity perception	-.22**	-.06	.23**	-.37***	.17*	.06						
8. GG as a bridge	-.10	.03	.34***	-.28***	.06	.27**	.24**					
9. Ingroup-outgroup overlap	-.08	.02	.27**	-.31***	.09	-.10	.26**	.21*				
10. Social closeness	-.52***	-.30***	.45***	-.63***	.17*	-.05	.28***	.11	.23**			
11. Outgroup feelings	-.27**	-.08	.42***	-.50***	.35**	-.06	.49***	.22**	.38***	.53***		
12. Reconciliation intentions	-.35***	-.26**	.40***	-.44***	.20*	.06	.30***	.20*	.10	.53***	.44***	
13. Outgroup attitude	-.46***	-.26**	.52***	-.64***	.29**	-.02	.44***	.22*	.29***	.84***	.81***	.80***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Table K4

Intercorrelations between variables, Ingroup norm condition, Experiment 5

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.30***											
3. Perspective taking	-.35***	-.36***										
4. Threat perception	.34***	.35***	-.57***									
5. Contact	-.28**	-.37***	.43***	-.40***								
6. Plausibility	-.06	-.29***	.41***	-.49***	.50***							
7. Dual identity perception	-.12	-.10	.35***	-.48***	.31***	.37***						
8. GG as a bridge	-.06	-.30***	.37***	-.40***	.40***	.53***	.40***					
9. Ingroup-outgroup overlap	-.30**	-.32***	.44***	-.45***	.45***	.46***	.56***	.49***				
10. Social closeness	-.48***	-.44***	.58***	-.54***	.53***	.49***	.37***	.50***	.56***			
11. Outgroup feelings	-.29**	-.30**	.63***	-.44***	.44***	.34***	.36***	.37***	.33***	.58***		
12. Reconciliation intentions	-.34***	-.46***	.60***	-.67***	.62***	.62***	.49***	.63***	.59***	.78***	.61***	
13. Outgroup attitude	-.42***	-.46***	.68***	-.63***	.61***	.56***	.47***	.57***	.57***	.90***	.81***	.92***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Table K5

Intercorrelations between variables, Outgroup experience condition, Experiment 5

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.47***											
3. Perspective taking	-.13	-.36***										
4. Threat perception	.26**	.49***	-.55***									
5. Contact	-.33***	-.36***	.20*	-.37***								
6. Plausibility	-.23*	-.29**	.27**	-.41***	.39***							
7. Dual identity perception	-.24*	-.25**	.38**	-.45***	.29**	.53***						
8. GG as a bridge	-.13	-.29**	.29**	-.40***	.43***	.43***	.50***					
9. Ingroup-outgroup overlap	-.20*	-.21*	.22*	-.32***	.44***	.45***	.47***	.54***				
10. Social closeness	-.40***	-.41***	.39***	-.52***	.43***	.53***	.52***	.46***	.48***			
11. Outgroup feelings	-.30**	-.27**	.38***	-.51***	.43***	.55***	.58***	.55***	.54***	.60***		
12. Reconciliation intentions	-.23*	-.36***	.43***	-.48***	.47***	.59***	.57***	.65***	.50***	.72***	.58***	
13. Outgroup attitude	-.36***	-.40***	.46***	-.58***	.51***	.64***	.64***	.64***	.58***	.90***	.83***	.89***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Table K6

Intercorrelations between variables, Control condition, Experiment 5

	1	2	3	4	5	6	7	8	9	10	11	12
1. Ideological orientation												
2. Ethnic identification	.26**											
3. Perspective taking	-.34***	-.41***										
4. Threat perception	.25**	.40***	-.64***									
5. Contact	-.25**	-.23*	.34***	-.42***								
6. Plausibility	.01	.15	.00	-.05	-.08							
7. Dual identity perception	-.20*	-.06	.39**	-.49***	.32***	.15						
8. GG as a bridge	-.19*	-.11	.44**	-.45***	.34***	.09	.48***					
9. Ingroup-outgroup overlap	-.28**	-.30**	.46**	-.48***	.31***	.07	.47***	.36***				
10. Social closeness	-.43***	-.43***	.61***	-.59***	.39***	.12	.36***	.43***	.45***			
11. Outgroup feelings	-.28**	-.24*	.54***	-.52***	.36***	.27**	.51***	.37***	.44***	.61***		
12. Reconciliation intentions	-.38***	-.33***	.66***	-.57***	.45***	.12	.41***	.51***	.42***	.71***	.57***	
13. Outgroup attitude	-.42***	-.39***	.70***	-.65***	.46***	.20*	.49***	.50***	.50***	.89***	.84***	.87***

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

"OG social closeness" represents a reversely coded social distance. "Outgroup Attitude" represents a principal component extracted from social closeness, outgroup feelings, and reconciliation intentions.

Appendix L: Planned contrasts between conditions, Experiments 4 and 5

Table L1

Planned contrasts between conditions in Experiments 4 and 5

	ANOVA model	**IG norm vs. control**		**OG experience vs. control**	
	F (df1, df2), *p*	t (df)	*d* [95% CI]	t (df)	*d* [95% CI]
GG as a bridge					
Experiment 4 (Serbia)	1.215 (2, 437), *p* = .298	-0.39 (437)	-.05 [-.28, .18]	1.09 (437)	.13 [-.10, .36]
Experiment 5 (FBH)	1.099 (2, 345), *p* = .334	0.67 (345)	.09 [-.17, .34]	1.48 (345)	.20 [-.06, .46]
Ingroup-outgroup overlap					
Experiment 4 (Serbia)	3.318 (2, 437), *p* = .037	1.30 (437)	.15 [-.08, .38]	2.58 (437)*	.30 [.07, .53]
Experiment 5 (FBH)	1.141 (2, 345), *p* = .321	1.44 (345)	.19 [-.07, .44]	1.12 (345)	.15 [-.11, .41]
Social closeness (social distance, reversely coded)					
Experiment 4 (Serbia)	0.171 (2, 437), *p* = .843	-0.02 (437)	.00 [-.23, .23]	-0.07 (437)	-.06 [-.29, .17]
Experiment 5 (FBH)	1.243 (2, 345), *p* = .290	1.34 (345)	.18 [-.08, .43]	-.05 (345)	-.01 [-.26, .25]
Outgroup feelings					
Experiment 4 (Serbia)	.015 (2, 437), *p* = .857	-0.35 (437)	-.04 [-.27, .19]	0.19 (437)	.02 [-.21, .25]
Experiment 5 (FBH)	.072 (2, 345), *p* = .934	-0.27 (345)	-.03 [-.29, .22]	0.10 (345)	.01 [-.24, .27]
Reconciliation intentions					
Experiment 4 (Serbia)	0.650 (2, 437), *p* = .522	-.66 (437)	-.08 [-.31, .15]	-1.14 (437)	-.13 [-.37, .10]
Experiment 5 (FBH)	0.874 (2, 345), *p* = .418	.063 (345)	.01 [-.25, .27]	-1.11 (345)	-.15 [-.41, .10]

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

Appendix M: Effects of interventions after controlling for demographics and individual differences – Experiments 4 and 5

The effects of interventions on 1) perception of the GG as a bridge, 2) perceived ingroup-outgroup overlap, 3) social closeness to outgroup, 4) outgroup feelings, and 5) reconciliation intentions are detailed in Tables M1-M5.

Table M1

Intervention effect on perception of the GG as a bridge, controlling for demographic variables and individual differenses

	Experiment 4 (Serbia)						**Experiment 5 (FBH)**					
	step 0			**step 1**			**step 0**			**step 1**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	4.40***	[3.83, 4.96]		4.41***	[3.82, 5.00]		4.95***	[4.20, 5.70]		4.85***	[4.04, 5.65]	
Gender (1 = female)	-0.01	[-0.30, 0.28]	0.00	-0.02	[-0.31, 0.27]	-0.01	0.25	[-0.08, 0.58]	0.07	0.29	[-0.04, 0.62]	0.08
Age	0.01**	[0.00, 0.02]	0.14	0.01**	[0.01, 0.02]	0.15	-0.01	[-0.02, 0.01]	-0.05	-0.01	[-0.02, 0.01]	-0.05
Religiosity	-0.00	[-0.07, 0.07]	0.00	-0.00	[-0.08, 0.07]	0.00	-0.04	[-0.15, 0.07]	-0.04	-0.04	[-0.15, 0.06]	-0.05
Education	-0.01	[-0.10, 0.08]	-0.01	-0.02	[-0.11, 0.06]	-0.03	-0.05	[-0.15, 0.06]	-0.05	-0.05	[-0.16, 0.06]	-0.05
Ideological orientation	-0.01	[-0.07, 0.05]	-0.03	-0.01	[-0.07, 0.05]	-0.01	0.05	[-0.02, 0.11]	0.08	0.05	[-0.01, 0.12]	0.08
Ethnic identification	0.08	[-0.01, 0.17]	0.10	0.08	[-0.01, 0.17]	0.09	0.00	[-0.13, 0.14]	0.00	-0.00	[-0.13, 0.13]	0.00
Perspective taking	0.23***	[0.11, 0.35]	0.19	0.23***	[0.10, 0.35]	0.19	0.17*	[0.03, 0.32]	0.14	0.18*	[0.04, 0.33]	0.15
Threat perception	-0.32***	[-0.43, -0.20]	-0.29	-0.33***	[-0.44, -0.21]	-0.30	-0.22***	[-0.35, -0.09]	-0.22	-0.22***	[-0.34, -0.09]	-0.22
Outgroup contact	-0.09	[-0.25, 0.06]	-0.05	-0.10	[-0.25, 0.06]	-0.05	0.36***	[0.20, 0.52]	0.25	0.35***	[0.20, 0.51]	0.24
Plausibility	0.33***	[0.20, 0.47]	0.21	0.32***	[0.18, 0.46]	0.20	0.27***	[0.13, 0.41]	0.19	0.26***	[0.12, 0.40]	0.19
Intervention type (IG norm vs. control)				-0.11	[-0.40, 0.18]	-0.04				-0.07	[-0.44, 0.29]	-0.02
Intervention type (OG experience vs. control)				0.18	[-0.12, 0.47]	0.06				0.29	[-0.06, 0.65]	0.09
F*(df1, df2), *p	**14.64 (10, 429), *p* < .001**			**12.59 (12, 427), *p* < .001**			**13.98 (10, 337), *p* < .001**			**12.11 (12, 335), *p* < .001**		
R^2 (R^2_{adj})	**.255 (.237)**			**.261 (.241)**			**.293 (.272)**			**.302 (.278)**		
Δ*F*(df1, df2)				**1.98 (2, 427), *p* = .140**						**2.25 (2, 335), *p* = .107**		
ΔR^2				**.006**						**.009**		

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

Table M2

Intervention effect on perceived ingroup-outgroup overlap, controlling for demographic variables and individual differenses

	Experiment 4 (Serbia)						**Experiment 5 (FBH)**					
	step 0			**step 1**			**step 0**			**step 1**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	4.38***	[3.80, 4.96]		4.20***	[3.60, 4.80]		3.57***	[2.81, 4.34]		3.40***	[2.58, 4.21]	
Gender (1 = female)	-0.00	[-0.30, 0.30]	0.00	0.01	[-0.29, 0.31]	0.00	-0.10	[-0.43, 0.24]	-0.03	-0.09	[-0.43, 0.24]	-0.03
Age	-0.02**	[-0.03, -0.01]	-0.21	-0.02**	[-0.03, -0.01]	-0.21	-0.01	[-0.02, 0.01]	-0.06	-0.01	[-0.02, 0.01]	-0.06
Religiosity	0.01	[-0.07, 0.09]	0.01	0.00	[-0.07, 0.08]	0.00	-0.00	[-0.11, 0.10]	0.00	0.00	[-0.11, 0.11]	0.00
Education	0.07	[-0.02, 0.16]	0.07	0.06	[-0.03, 0.15]	0.06	-0.02	[-0.13, 0.08]	-0.02	-0.02	[-0.13, 0.09]	-0.02
Ideological orientation	0.02	[-0.04, 0.09]	0.04	0.03	[-0.04, 0.09]	0.05	-0.06	[-0.12, 0.01]	-0.09	-0.06	[-0.12, 0.01]	-0.09
Ethnic identification	-0.05	[-0.14, 0.04]	-0.06	-0.05	[-0.14, 0.04]	-0.06	-0.04	[-0.18, 0.09]	-0.04	-0.04	[-0.17, 0.09]	-0.04
Perspective taking	0.15*	[0.03, 0.28]	0.12	0.16*	[0.04, 0.28]	0.13	0.18*	[0.03, 0.32]	0.14	0.18*	[0.03, 0.33]	0.14
Threat perception	-0.32**	[-0.44, -0.20]	-0.29	-0.33**	[-0.45, -0.21]	-0.29	-0.19**	[-0.31, -0.06]	-0.19	-0.19**	[-0.32, -0.06]	-0.19
Outgroup contact	0.21**	[0.06, 0.37]	0.12	0.20*	[0.05, 0.36]	0.11	0.34***	[0.18, 0.50]	0.23	0.33**	[0.17, 0.49]	0.22
Plausibility	0.25**	[0.11, 0.38]	0.16	0.22**	[0.08, 0.36]	0.14	0.24***	[0.10, 0.38]	0.17	0.23**	[0.09, 0.37]	0.16
Intervention type (IG norm vs. control)				0.22	[-0.08, 0.52]	0.07				0.15	[-0.22, 0.52]	0.04
Intervention type (OG experience vs. control)				0.43**	[0.13, 0.73]	0.14				0.24	[-0.13, 0.60]	0.07
F*(df1, df2), *p	**13.36 (10, 429), *p* < .001**			**11.96 (12, 427), *p* < .001**			**14.33 (10, 337), *p* < .001**			**12.07 (12, 335), *p* < .001**		
R^2 (R^2_{adj})	**.237 (220)**			**.252 (.231)**			**.298 (.278)**			**.302 (.277)**		
Δ*F*(df1, df2)				**4.017 (2, 427), *p* = .019**						**0.83 (2, 335), *p* = .436**		
ΔR^2				**.015**						**.004**		

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

Table M3

Intervention effect on social closeness to outgroup (reversed social distance), controlling for demographic variables and individual differenses

	Experiment 4 (Serbia)						**Experiment 5 (FBH)**					
	step 0			**step 1**			**step 0**			**step 1**		
		b			*b*			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	6.31***	[5.89, 6.73]		6.30***	[5.86, 6.73]		6.35***	[5.76, 6.95]		6.36***	[5.72, 7.00]	
Gender (1 = female)	-0.16	[-0.38, 0.05]	-0.06	-0.16	[-0.38, 0.05]	-0.06	0.18	[-0.09, 0.44]	0.05	0.18	[-0.09, 0.44]	0.05
Age	-0.01	[-0.01, 0.00]	-0.08	-0.01	[-0.01, 0.00]	-0.08	-0.01	[-0.02, 0.00]	-0.07	-0.01	[-0.02, 0.00]	-0.07
Religiosity	-0.04	[-0.09, 0.02]	-0.06	-0.04	[-0.09, 0.02]	-0.06	-0.13**	[-0.22, -0.05]	-0.15	-0.13**	[-0.22, -0.05]	-0.15
Education	0.06	[-0.00, 0.13]	0.08	0.06	[-0.00, 0.13]	0.08	-0.02	[-0.10, 0.06]	-0.02	-0.02	[-0.10, 0.06]	-0.02
Ideological orientation	-0.02	[-0.06, 0.03]	-0.04	-0.02	[-0.06, 0.03]	-0.04	-0.11***	[-0.16, -0.06]	-0.18	-0.11***	[-0.16, -0.06]	-0.18
Ethnic identification	-0.03	[-0.10, 0.04]	-0.04	-0.03	[-0.10, 0.04]	-0.04	-0.05	[-0.16, 0.05]	-0.05	-0.05	[-0.16, 0.05]	-0.05
Perspective taking	0.14**	[0.05, 0.23]	0.14	0.14**	[0.05, 0.23]	0.14	0.27***	[0.15, 0.38]	0.22	0.27***	[0.15, 0.38]	0.22
Threat perception	-0.47***	[-0.56, -0.39]	-0.51	-0.47***	[-0.56, -0.38]	-0.50	-0.21***	[-0.31, -0.11]	-0.22	-0.21***	[-0.31, -0.11]	-0.22
Outgroup contact	0.02	[-0.09, 0.14]	0.02	0.02	[-0.09, 0.14]	0.02	0.26***	[0.14, 0.38]	0.18	0.26***	[0.14, 0.39]	0.18
Plausibility	0.09	[-0.01, 0.19]	0.07	0.09	[-0.01, 0.19]	0.07	0.23***	[0.13, 0.34]	0.17	0.23***	[0.12, 0.34]	0.17
Intervention type (IG norm vs. control)				0.04	[-0.18, 0.25]	0.02				-0.01	[-0.30, 0.28]	0.00
Intervention type (OG experience vs. control)				-0.00	[-0.22, 0.22]	0.00				-0.00	[-0.29, 0.28]	0.00
F*(df1, df2), *p	**33.07 (10, 429), *p* < .001**			**27.45 (12, 427), *p* < .001**			**38.2 (10, 337), *p* < .001**			**31.64 (12, 335), *p* < .001**		
R^2 (R^2_{adj})	**.435 (.422)**			**.436 (.420)**			**.531 (.517)**			**.531 (.515)**		
Δ*F*(df1, df2)				**0.09 (2, 427), *p* = .913**						**0 (2, 335), *p* = .999**		
ΔR^2				**.001**						**.000**		

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

Table M4

Intervention effect on outgroup feelings, controlling for demographic variables and individual differenses

	Experiment 4 (Serbia)						Experiment 5 (FBH)					
	step 0			step 1			step 0			step 1		
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	61.69***	[53.10, 70.27]		61.73***	[52.78, 70.68]		71.77***	[60.18, 83.36]		73.55**	[61.19, 85.91]	
Gender (1 = female)	1.62	[-2.80, 6.04]	0.03	1.57	[-2.86, 6.00]	0.03	4.62	[-0.47, 9.72]	0.08	5.30*	[0.17, 10.42]	0.09
Age	-0.04	[-0.19, 0.11]	-0.02	-0.03	[-0.18, 0.12]	-0.02	-0.24*	[-0.45, -0.04]	-0.12	-0.23*	[-0.44, -0.03]	-0.12
Religiosity	-0.08	[-1.21, 1.05]	-0.01	-0.09	[-1.22, 1.04]	-0.01	0.51	[-1.13, 2.15]	0.03	0.36	[-1.28, 2.00]	0.02
Education	0.51	[-0.82, 1.85]	0.03	0.41	[-0.93, 1.76]	0.03	-2.08*	[-3.71, -0.46]	-0.11	-2.19**	[-3.81, -0.56]	-0.12
Ideological orientation	-0.83	[-1.75, 0.08]	-0.09	-0.79	[-1.71, 0.13]	-0.09	-1.08*	[-2.07, -0.09]	-0.10	-1.00*	[-1.99, -0.01]	-0.09
Ethnic identification	1.65*	[0.30, 3.00]	0.12	1.64*	[0.29, 3.00]	0.11	0.53	[-1.48, 2.53]	0.03	0.36	[-1.65, 2.37]	0.02
Perspective taking	2.18*	[0.33, 4.03]	0.11	2.16*	[0.31, 4.02]	0.11	6.33***	[4.09, 8.56]	0.29	6.46**	[4.22, 8.70]	0.30
Threat perception	-8.64***	[-10.37, -6.90]	-0.47	-8.75***	[-10.50, -7.00]	-0.48	-4.46***	[-6.41, -2.51]	-0.26	-4.43**	[-6.37, -2.48]	-0.26
Outgroup contact	4.88***	[2.56, 7.21]	0.17	4.85**	[2.52, 7.18]	0.16	5.29***	[2.86, 7.72]	0.21	5.32**	[2.90, 7.74]	0.21
Plausibility	0.56	[-1.48, 2.59]	0.02	0.44	[-1.62, 2.50]	0.02	4.44***	[2.33, 6.56]	0.18	4.40**	[2.28, 6.51]	0.18
Intervention type (IG norm vs. control)				-0.76	[-5.18, 3.66]	-0.02				-4.68	[-10.29, 0.92]	-0.08
Intervention type (OG experience vs. control)				1.54	[-2.90, 5.98]	0.03				0.69	[-4.83, 6.21]	0.01
F*(df1, df2), *p	**25.33 (10, 429), *p* < .001**			**21.16 (12, 427), *p* < .001**			**26.29 (10, 337), *p* < .001**			**22.40 (12, 335), *p* < .001**		
R^2 (R^2_{adj})	**.371 (.357)**			**.373 (.355)**			**.438 (.422)**			**.445 (.425)**		
Δ*F*(df1, df2)				**0.55 (2, 427), *p* = .576**						**.007**		
ΔR^2				**.002**						**2.09 (2, 335), *p* = .125**		

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

Table M5

Intervention effect on reconciliation intentions, controlling for demographic variables and individual differenses

	Experiment 4 (Serbia)						Experiment 5 (FBH)					
	step 0			step 1			step 0			step 1		
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	6.19***	[5.89, 6.49]		6.23***	[5.92, 6.55]		5.55***	[5.08, 6.03]		5.73***	[5.22, 6.24]	
Gender (1 = female)	-0.14	[-0.29, 0.02]	-0.07	-0.14	[-0.29, 0.02]	-0.07	0.18	[-0.03, 0.39]	0.06	0.19	[-0.02, 0.40]	0.07
Age	0.00	[-0.00, 0.01]	0.07	0.00	[-0.00, 0.01]	0.06	-0.00	[-0.01, 0.01]	-0.03	-0.00	[-0.01, 0.01]	-0.03
Religiosity	0.00	[-0.03, 0.04]	0.01	0.01	[-0.03, 0.05]	0.01	-0.01	[-0.08, 0.05]	-0.02	-0.02	[-0.09, 0.05]	-0.03
Education	0.01	[-0.03, 0.06]	0.02	0.01	[-0.03, 0.06]	0.03	-0.02	[-0.09, 0.04]	-0.03	-0.03	[-0.10, 0.04]	-0.03
Ideological orientation	-0.03*	[-0.06, -0.00]	-0.10	-0.03*	[-0.07, -0.00]	-0.10	-0.03	[-0.07, 0.01]	-0.06	-0.02	[-0.07, 0.02]	-0.05
Ethnic identification	-0.04	[-0.09, 0.00]	-0.09	-0.04	[-0.09, 0.00]	-0.09	-0.04	[-0.12, 0.04]	-0.05	-0.04	[-0.13, 0.04]	-0.05
Perspective taking	0.16***	[0.09, 0.22]	0.22	0.15***	[0.09, 0.22]	0.21	0.27***	[0.18, 0.37]	0.27	0.27***	[0.18, 0.37]	0.27
Threat perception	-0.25***	[-0.31, -0.19]	-0.38	-0.25***	[-0.31, -0.19]	-0.38	-0.18***	[-0.26, -0.10]	-0.23	-0.18***	[-0.26, -0.10]	-0.23
Outgroup contact	0.02	[-0.06, 0.10]	0.02	0.03	[-0.06, 0.11]	0.02	0.29***	[0.19, 0.39]	0.25	0.30***	[0.20, 0.40]	0.26
Plausibility	0.16***	[0.09, 0.23]	0.17	0.16***	[0.09, 0.23]	0.18	0.27***	[0.18, 0.35]	0.24	0.27***	[0.18, 0.36]	0.24
Intervention type (IG norm vs. control)				-0.05	[-0.20, 0.11]	-0.03				-0.21	[-0.44, 0.03]	-0.07
Intervention type (OG experience vs. control)				-0.09	[-0.25, 0.06]	-0.05				-0.18	[-0.40, 0.05]	-0.06
F*(df1, df2), *p	**30.46 (10, 429), *p* < .001**			**25.45 (12, 427), *p* < .001**			**43.03 (10, 337), *p* < .001**			**36.34 (12, 335), *p* < .001**		
R^2 (R^2_{adj})	**.415 (.402)**			**.417 (.401)**			**.561 (.548)**			**.565 (.550)**		
Δ*F*(df1, df2)				**0.67 (2, 427), *p* = .512**						**1.82 (2, 335), *p* = .163**		
ΔR^2				**.002**						**.004**		

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

Appendix N: Predictors of outgroup attitude, regression analysis details – Experiments 4 and 5

Table N1

Predictors of outgroup attitude, experiment 4 (Serbia)

	step 0			**step 1**			**Step 2**		
		b			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	-0.04	[-0.50, 0.42]		-0.02	[-0.50, 0.46]		-0.01	[-0.49, 0.46]	
Gender (1 = female)	-0.13	[-0.37, 0.10]	-0.04	-0.14	[-0.37, 0.10]	-0.04	-0.18	[-0.41, 0.06]	-0.05
Age	-0.00	[-0.01, 0.01]	-0.01	-0.00	[-0.01, 0.01]	-0.01	-0.00	[-0.01, 0.01]	-0.01
Religiosity	-0.02	[-0.08, 0.04]	-0.02	-0.02	[-0.08, 0.04]	-0.02	-0.02	[-0.08, 0.04]	-0.02
Education	0.05	[-0.02, 0.12]	0.05	0.05	[-0.02, 0.12]	0.05	0.05	[-0.02, 0.12]	0.05
Ideological orientation	-0.05*	[-0.10, -0.00]	-0.09	-0.05*	[-0.10, -0.00]	-0.09	-0.06*	[-0.11, -0.01]	-0.11
Ethnic identification	-0.00	[-0.08, 0.07]	-0.01	-0.00	[-0.08, 0.07]	-0.01	0.01	[-0.07, 0.08]	0.01
Perspective taking	0.23***	[0.13, 0.33]	0.18	0.23***	[0.13, 0.33]	0.18	0.22**	[0.12, 0.32]	0.17
Threat perception	-0.61***	[-0.70, -0.52]	-0.54	-0.61***	[-0.71, -0.52]	-0.54	-0.59**	[-0.69, -0.50]	-0.52
Outgroup contact	0.15*	[0.02, 0.27]	0.08	0.15*	[0.02, 0.27]	0.08	0.15*	[0.03, 0.28]	0.08
Plausibility	0.16**	[0.05, 0.27]	0.10	0.16**	[0.05, 0.27]	0.10	-0.07	[-0.26, 0.12]	-0.04
Intervention type (IG norm vs. control)				-0.03	[-0.27, 0.21]	-0.01	-0.00	[-0.24, 0.24]	0.00
Intervention type (OG experience vs. control)				-0.03	[-0.26, 0.21]	-0.01	-0.03	[-0.26, 0.21]	-0.01
Plausibility * intervention type (IG norm vs. control)							0.21	[-0.06, 0.47]	0.07
Plausibility * intervention type (OG experience vs. control)							0.47***	[0.21, 0.72]	0.18
F*(df1, df2), *p	**49.61 (10, 429), *p* < .001**			**41.16 (12, 427), *p* < .001**			**37.06 (14, 425), *p* < .001**		
R^2 (R^2_{adj})	**.536 (.525)**			**.536 (.523)**			**.550 (.535)**		
Δ*F*(df1, df2)				**0.04 (2, 427), *p* = .962**			**6.32 (2, 425), *p* = .002**		
ΔR^2				**.000**			**.014**		

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

Table N2

Predictors of outgroup attitude, experiment 5 (FBH)

	step 0			**step 1**			**Step 2**		
		b			*b*			*b*	
	b	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β	*b*	95% CI [LL, UL]	β
(Intercept)	0.64*	[0.14, 1.14]		0.76**	[0.23, 1.29]		0.75**	[0.22, 1.28]	
Gender (1 = female)	0.24*	[0.02, 0.46]	0.07	0.26*	[0.04, 0.48]	0.08	0.27*	[0.05, 0.49]	0.08
Age	-0.01*	[-0.02, -0.00]	-0.08	-0.01*	[-0.02, -0.00]	-0.08	-0.01*	[-0.02, -0.00]	-0.08
Religiosity	-0.05	[-0.12, 0.02]	-0.05	-0.05	[-0.12, 0.02]	-0.06	-0.06	[-0.13, 0.01]	-0.07
Education	-0.06	[-0.13, 0.01]	-0.06	-0.06	[-0.13, 0.01]	-0.06	-0.06	[-0.13, 0.01]	-0.06
Ideological orientation	-0.07***	[-0.12, -0.03]	-0.13	-0.07***	[-0.11, -0.03]	-0.12	-0.07**	[-0.11, -0.02]	-0.12
Ethnic identification	-0.03	[-0.11, 0.06]	-0.03	-0.03	[-0.12, 0.05]	-0.03	-0.03	[-0.11, 0.06]	-0.02
Perspective taking	0.35***	[0.25, 0.45]	0.30	0.35***	[0.26, 0.45]	0.30	0.36***	[0.26, 0.45]	0.30
Threat perception	-0.25***	[-0.33, -0.16]	-0.27	-0.25***	[-0.33, -0.16]	-0.27	-0.24***	[-0.33, -0.16]	-0.27
Outgroup contact	0.34***	[0.23, 0.44]	0.25	0.34***	[0.24, 0.44]	0.25	0.34***	[0.23, 0.44]	0.25
Plausibility	0.30***	[0.21, 0.39]	0.23	0.30***	[0.21, 0.39]	0.23	0.24**	[0.08, 0.40]	0.19
Intervention type (IG norm vs. control)				-0.19	[-0.43, 0.05]	-0.06	-0.18	[-0.42, 0.06]	-0.06
Intervention type (OG experience vs. control)				-0.07	[-0.30, 0.17]	-0.02	-0.07	[-0.30, 0.17]	-0.02
Plausibility * intervention type (IG norm vs. control)							-0.01	[-0.23, 0.20]	-0.01
Plausibility * intervention type (OG experience vs. control)							0.20	[-0.02, 0.43]	0.09
F*(df1, df2), *p	**62.38 (10, 337), *p* < .001**			**52.25 (12, 335), *p* < .001**			**45.62 (14, 333), *p* < .001**		
R^2 (R^2_{adj})	**.649 (.639)**			**.652 (.639)**			**.657 (.643)**		
Δ*F*(df1, df2)				**1.21 (2, 335), *p* = .301**			**2.69 (2, 333), *p* = .069**		
ΔR^2				**.003**			**.005**		

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

Biography

Milica Ninković (1992, Belgrade) began her undergraduate studies in psychology at the Faculty of Philosophy, University of Belgrade, in 2013 and completed them in 2017 (GPA 9.11/10). She enrolled in a master's program in psychology the same year, which she completed in 2018 (GPA 10/10). She defended her master thesis, titled "Can Dual Identity Groups Serve as a Bridge Between Groups They Represent: The Case of Ethnically Mixed Marriages", with the highest grade, under the supervision of Iris Žeželj. In December 2018, she enrolled in doctoral studies in psychology at the Department of Psychology, Faculty of Philosophy, University of Belgrade. After passing all exams (GPA 9.67/10), she defended the PhD thesis proposal titled "Social-Identity Interventions for Intergroup Bias Reduction: Systematization and Recommendations for the Improvement of Procedures", under the supervision of Iris Žeželj.

Milica has been employed as a researcher at the Faculty of Philosophy, University of Belgrade since April 2019. She has also been engaged in teaching in courses Psychometrics 1 and Psychometrics 2 since October 2019. She has participated in several international and national projects: *MINDtheGEPs* (Horizon 2020), *Reason4Health* (Science Fund of the Republic of Serbia), and *DigiFolk* (Erasmus+). Milica is a member of the European Association of Social Psychologists (EASP), the International Society of Political Psychology (ISPP), and the Serbian Psychological Society. She completed a study visit to Utrecht University (February–March 2020) funded by an EASP scholarship, as well as the EASP Summer School (2022).

Milica is a member of the LIRA laboratory at the Faculty of Philosophy, University of Belgrade. She is the author and co-author of six research papers categorized as M21-M23 (including her master's thesis, published in the journal *Self and Identity*, which is highly regarded in this research field), one chapter in an international edited volume (M14), one chapter in a national edited volume (M54), and over 20 papers presented at scientific conferences in Serbia and abroad.

Изјава о ауторству

Име и презиме аутора: *Милица Нинковић*

Број индекса: *4П18-9*

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Број индекса: ***4П18-9***

Студијски програм: ***Психологија***

Наслов рада; ***Social-identity Interventions for Intergroup Bias Reduction: Systematization and Recommendations for the Improvement of Procedures***

Менторка: ***др Ирис Жежељ***

Изјављујем да је штампана верзија мог докторског рада истоветна електронској верзији коју сам предао/ла ради похрањена у Дигиталном репозиторијуму Универзитета у Београду.

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У Београду,

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16.1.2024.

1. Ауторство. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, и прераде, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце, чак и у комерцијалне сврхе. Ово је најслободнија од свих лиценци.

2. Ауторство – некомерцијално. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, и прераде, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце. Ова лиценца не дозвољава комерцијалну употребу дела.

3. Ауторство – некомерцијално – без прерада. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, без промена, преобликовања или употребе дела у свом делу, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце. Ова лиценца не дозвољава комерцијалну употребу дела. У односу на све остале лиценце, овом лиценцом се ограничава највећи обим права коришћења дела.

4. Ауторство – некомерцијално – делити под истим условима. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, и прераде, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце и ако се прерада дистрибуира под истом или сличном лиценцом. Ова лиценца не дозвољава комерцијалну употребу дела и прерада.

5. Ауторство – без прерада. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, без промена, преобликовања или употребе дела у свом делу, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце. Ова лиценца дозвољава комерцијалну употребу дела.

6. Ауторство – делити под истим условима. Дозвољавате умножавање, дистрибуцију и јавно саопштавање дела, и прераде, ако се наведе име аутора на начин одређен од стране аутора или даваоца лиценце и ако се прерада дистрибуира под истом или сличном лиценцом. Ова лиценца дозвољава комерцијалну употребу дела и прерада. Слична је софтверским лиценцама, односно лиценцама отвореног кода.