Investigating Motivations Underlying Collective Narcissism and In-group Identification

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Abstract

We draw on self-determination theory and research on religious orientations to investigate motivations associated with collective narcissism—a belief in in-group greatness that is underappreciated by others, versus secure in-group identity—an unpretentious positive regard for the in-group. Four surveys examined these associations focusing on different social identities: personally important groups (Study 1, $N = 212$), nationalities (Study 2, $N = 196$), and religious groups (Study 3, $N = 1,690$; Study 4, $N = 399$). In Studies 1, 2, and 4 self-determined motivations were associated with secure in-group identity, whereas non-self-determined motivations were related to collective narcissism. In Studies 3 and 4, intrinsic religiosity was related to collective narcissism and secure in-group identity, while extrinsic personal religiosity was associated with collective narcissism only. Results indicate that collective narcissism is motivated by seeking external and internal rewards.

Keywords: collective narcissism, in-group identification, self-determination, religious orientations.

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Immature love says: I love you because I need you. Mature love says: I need you because I love you. (Fromm, 1957/1995, p. 32)

Different types of love stem from different motives. As Fromm (1957/1995) argued, immature love is conditioned on satisfying one's own needs, whereas mature love is unconditional and needs the love-object only because of the emotions one feels for them. Such feelings are not limited to interpersonal relationships. In fact, people can experience them towards various social groups: from intimacy groups (e.g., family, friends) to abstract categories (e.g., nation, religion, Hogg & Abrams, 1998). Emotional investment is an important element of in-group identity (Leach et al., 2008; Tajfel, 1981). However, people identify with their groups in various ways (Adorno et al., 1950). In this project, we focus on the distinction between collective narcissism—a belief in in-group greatness that is contingent on external validation (Golec de Zavala et al., 2009) and secure in-group identity—an unpretentious positive regard for the in-group (Golec de Zavala, Cichocka, & Bilewicz, 2013). We examine motivations underlying these two forms of in-group identity.

While there is extensive literature on the undesired intergroup outcomes of collective narcissism, research examining its antecedents is still limited (cf. Cichocka et al., 2018; Golec de Zavala et al., 2020). In this project, we investigate a broad array of motivations (i.e., reasons why people identify with a particular group) to map what underpins narcissistic versus secure in-group identity. To do so, we rely on motivational frameworks stemming from self-determination theory (SDT; Amiot & Sansfaçon, 2011) and studies of religious orientations (Allport & Ross, 1967), which suggest that different types of motives can result in different ways of identifying with a social group. Thus, we seek to contribute to the existing literature on collective narcissism and social identification by bridging two theories of motivation types.

Defensive and Secure Forms of In-group Identity

Collective narcissism is associated with convictions that the in-group is exceptional, entitled to privileged treatment, but underappreciated by others (Golec de Zavala et al., 2019). In national contexts, collective narcissism positively correlates with other types of destructive identities such as nationalism (Golec de Zavala et al., 2016; Lyons et al., 2010) and blind patriotism (Golec de Zavala et al., 2016). However, compared to measures that assess blind patriotism and nationalism, items investigating collective narcissism are context free. Therefore, collective narcissism can be measured in reference to various groups (e.g., religion, teams) besides national ones.

Previous studies demonstrate that collective narcissism predicts problematic outcomes in intergroup relations and politics (e.g., Cichocka & Cislak, 2020). Measured in national contexts, collective narcissism is linked to spiteful responses to in-group criticism (Golec de Zavala, Cichocka, & Iskra-Golec, 2013), enjoying other groups' misfortune (Golec de Zavala et al., 2016), lower intergroup solidarity (Górska et al., 2019), and greater prejudice towards outgroups (Cai & Gries, 2013; Golec de Zavala, Cichocka, & Bilewicz, 2013). In religious groups, collective narcissism predicts support for extremism and violence especially if these groups are radical or tightly-bonded (Jasko et al., 2019; Yustisia et al., 2020). National collective narcissism is related to willingness to sacrifice other citizens to save country's image (Gronfeldt et al., 2022), supporting populist leaders (Lantos & Forgas, 2021; Marchlewska et al., 2018), and lower support for democracy (Marchlewska et al., 2021).

Collective narcissism usually correlates positively with measures of in-group identification, which capture three components: being satisfied with one's group membership, considering the in-group a central part of one's self-concept, and feeling a bond with other in-group members (what Leach et al., 2008 refer to as group-level self-investment dimension of in-group identification; see also Cameron, 2004). This is because collective narcissism and in-group

identification both reflect a positive regard of the in-group. Covarying out collective narcissism from measures of in-group identification[1] eliminates the desire to constantly validate the in-group in the eyes of others and allows researchers to observe a secure in-group identity—an unassuming positive regard for the in-group (e.g., Cichocka, 2016; Golec de Zavala, Cichocka, & Bilewicz, 2013). Such in-group identity is linked to more positive attitudes even towards outgroup members (Golec de Zavala, Cichocka, & Bilewicz, 2013; Marchlewska et al., 2020). In contrast, collective narcissism net of in-group identification, reflects defensive entitlement and concern about external recognition of the in-group (Golec de Zavala, Cichocka, & Bilewicz, 2013; Golec de Zavala et al., 2020; Marchlewska et al., 2020). Given their dramatically different implications for intergroup relations and political outcomes, it is important to understand the motivations underlying the two forms of in-group identity.

While theorising rooted in social identity theory (SIT) would suggest that in-group identification and favouritism stem from frustrated personal needs (Abrams & Hogg, 1988; Brewer, 1991; Hogg, 2000), recent studies suggest that this would depend on the type of in-group identity. Cichocka (2016) proposed that collective narcissism stems from unsatisfied personal needs, whereas a more secure in-group identity might be rooted in fulfilled personal needs. Previous studies focused on needs for personal control (Cichocka et al., 2018) and positive self-worth (Golec de Zavala et al., 2020) as the antecedents of these two forms of in-group identity. Threatened personal control and low self-esteem increased collective narcissism, suggesting collective narcissism can be seen as compensatory—used as a tool that is thought to manage deprived personal needs. Interestingly, longitudinal studies suggest that collective narcissism did not actually satisfy these needs (Cichocka et al., 2018; Golec de Zavala et al., 2020). In contrast, high perceived personal control and high self-esteem fostered secure in-group

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[1] Especially those capturing the group-level self-investment dimension of in-group identification (rather than the self-definition dimension; Leach et al., 2008; see also Marchlewska et al., 2020).

identity (Cichocka et al., 2018; Golec de Zavala et al., 2020), suggesting it is non-compensatory. However, secure in-group identity still contributed to the future satisfaction of personal needs (Cichocka et al., 2018).

While these studies provided first evidence for the compensatory versus non-compensatory nature of collective narcissism and secure in-group identity respectively, they focused on isolated personal needs and on national identities only. We propose to investigate a wider array of motivations underlying different forms of identity by incorporating research and theorising that focuses on the types of motivations, rather than the amount of motivation (Pargament, 2002; Ryan & Deci, 2000). Studying different types of motivations should provide a nuanced understanding of the underpinnings of collective narcissism and secure in-group identity, and provide a theoretical explanation for their differing outcomes. We rely on SDT (Amiot & Sansfaçon, 2011; Deci & Ryan, 2000) as our main framework as it covers a broad range of motivations and organizes them systematically. We complement this approach with a similar framework used in studies of religion that considers the different types of individual motivations in religious orientations (Allport & Ross, 1967).

Self-Determination Theory

SDT was originally formulated to differentiate between motivations that underlie behaviours (Deci & Ryan, 1985). The main difference is between intrinsic and extrinsic motivations (Ryan & Deci, 2000). Intrinsic motivation is non-instrumental: a behaviour is performed for its inherent satisfaction (e.g., painting for the mere satisfaction this activity brings). In contrast, extrinsic motivation is instrumental: a behaviour is done for a separable outcome (e.g., painting to make money; Ryan & Deci, 2000). With the classic understanding, intrinsic motivation is understood to be autonomous because it is non-instrumental, whereas extrinsic motivation is considered to be non-autonomous because it is instrumental (Ryan & Deci, 2000). However, SDT suggests that in addition to intrinsic motivation, some extrinsic motivations reflect a degree of autonomy too

(Ryan & Deci, 2000). To illustrate, painting because mastering a certain technique is personally important reflects autonomy compared to painting to make money. Therefore, some extrinsic motivations are self-determined (autonomous), whereas others are non-self-determined (controlled by internal and external contingencies, Deci & Ryan, 2008).

The premises of SDT have been used to understand why and how people identify with social groups (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011). Individuals embrace an identity for different reasons and individual motivations reflect these reasons (Ryan & Deci, 2003). Self-determined motivations include *intrinsic motivation* (identifying only for the inherent pleasure and satisfaction that is derived from an identity, not for an end product), *integrated regulation* (identifying because the identity is consistent with individual's other values and beliefs), and *identified regulation* (identifying because the identity is personally important and allows individuals to reach their goals and objectives) (Amiot & Sansfaçon, 2011; Ryan & Deci, 2003).[2] Non-self-determined motivations include *introjected regulation* (identifying because of internal pressures and identity contingent self-worth), and *external regulation* (identifying in order to attain prestige or positive social comparisons that come with an identity), as well as amotivation (belief that identity will not provide any desired outcomes) (Amiot & Sansfaçon, 2011; Legault & Amiot, 2014).

At the individual level, self-determined motivations predict more desirable outcomes in education (e.g., better school achievement; Black & Deci, 2000; Miserandino, 1996), health (e.g., energy, Nix et al., 1999), and sports (e.g., less burnout, Lonsdale et al., 2009). Non-self-determined motivations, in contrast, predict less desirable outcomes for individuals, including higher drop-out rates in sport and school (Pelletier et al., 2001; Vallerand et al., 1997), and general depletion of energy (Moller et al., 2006). Within group contexts, non-self-determined

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[2] Although integrated and identified regulations assume a degree of autonomy, they can be considered extrinsic motives because people engage in them not for the sheer enjoyment of doing them (Ryan & Deci, 2000).

motivations are linked to turnover intentions in organizations (Gillet et al., 2013) and the acceptance of cheating in teams (Ntoumanis & Standage, 2009).

Applied to national identity, non-self-determined motivations predict nationalism, whereas self-determined motivations generally predict a constructive form of patriotism (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011; see also Kosterman & Feshbach, 1989; Schatz et al., 1999). Intrinsic motivation was an exception in this case as it was positively associated with both nationalism and patriotism as well as in-group biases (Amiot & Sansfaçon, 2011, Studies 2 and 3). Based on these studies, we investigated how individual motivations to identify outlined in SDT were associated with collective narcissism versus a more secure in-group identity.

Self-Determined and Non-Self Determined Motives Underlying Collective Narcissism and Secure In-group Identity

Studies highlight that people who are narcissistic about their social group seek to compensate for their unfilled needs through it (Cichocka et al., 2018; Golec de Zavala et al., 2020; Marchlewska et al., 2020). According to SDT, unmet personal needs underpin non-self-determined motivations—this implies that these motives are compensatory (Deci & Ryan, 2000). Studies show that non-self-determined motives are linked to higher perceptions of threat and defensiveness in interpersonal relations because they are dependent on internal (i.e., ego-related) and external contingencies (Hodgins & Knee, 2002; Hodgins et al., 1996). Ryan and Deci (2003) suggested that these motivations may lead people to compensatory identities which do not satisfy the initial lack in the personal need. Given that collective narcissism is associated with frustrated personal needs but does not necessarily satisfy these needs (Cichocka et al., 2018; Golec de Zavala et al. 2020), it follows that non-self-determined motives could underlie it.

In contrast, satisfied needs underpin more self-determined motivations, and as such these motives are considered not compensatory (Deci & Ryan, 2000). Satisfied needs promote more autonomous (i.e., self-determined) motivations which could further contribute to fulfilled needs

(Deci & Ryan, 2000). Previous research shows that in-group identification alleviates threats to self-esteem and control (Greenaway et al., 2015; see also Branscombe et al., 1999). Similarly, studies differentiating between collective narcissism and secure in-group identity also demonstrate that the latter predicts increased self-esteem and control (Cichocka et al., 2018; Golec de Zavala et al., 2020). Therefore, we argue that self-determined motives could underlie secure in-group identity (Amiot & Sansfaçon, 2011; Deci & Ryan, 2000). Below, we outline the expected associations between specific self-determined and non-self-determined motives and collective narcissism versus secure in-group identity.

External and introjected regulations reflect identifying to attain internal and external rewards that come with an identity (Ryan & Deci, 2003). Low feelings of self-worth and higher tendency to self-criticise are related to collective narcissism (Golec de Zavala, 2019; Golec de Zavala et al., 2020). Therefore, we anticipated introjected regulation (identifying due to internal pressures and self-worth) to be associated with higher collective narcissism. Collective narcissism is also characterised by beliefs in the in-group's superiority and feelings of being entitled to special treatment (Cichocka, 2016). We then expected external regulation (identifying for recognition and prestige) to be associated with collective narcissism.

Although they are in the same category, amotivation tends to be negatively related to other non-self-determined motives (e.g., external and introjected, Amiot & Sansfaçon, 2011). Both secure identity and collective narcissism assume that having a certain identity is valuable for the personal self. Therefore, amotivation (the belief that identity will not provide a desirable outcome) should be negatively associated with both collective narcissism and secure in-group identity.

Secure in-group identity stems from feelings of being able to control one's life (Cichocka et al., 2018). Such experiences are closely related to autonomy, that is experiencing a behaviour as emanating from the self, rather than being externally controlled. When intrinsically motivated,

people view themselves as engaging in activities autonomously (Ryan & Deci, 2000).

Perceptions of identifying autonomously with a group positively correlated with commitment

(Sheldon & Bettencourt, 2002). Feelings of self-worth are also associated with secure in-group

identity (Golec de Zavala et al., 2020). Having more stable self-esteem predicts more identified

regulation and intrinsic motivation (Kernis et al., 2000), which indicates that people with a

secure self do things for personally important reasons and the inherent joy they bring. People

with a stable self might rely on these motivations when they identify. Thus, we expect intrinsic

motivation (identifying for the inherent pleasure driven from an identity) and identified

regulation (identifying because identity allows achieving personally important objectives) from

self-determined motivations to be related to secure in-group identity.

   Both in the case of defensive and secure in-group identity, we capture people's beliefs

about groups that are relevant to them. Thus, from SIT perspective, their identity should be an

important part of their self (Tajfel, 1981; Turner, 1982). According to SDT, this happens via

integrated regulation (identifying because identity is coherent with other values and beliefs;

Gagné & Deci, 2005). Initially, integrated regulation was placed in self-determined motives and

it was linked to desired intrapersonal outcomes (Deci & Ryan, 2000). However, recent work

suggests that the internalization of an identity to the self may not indicate how or why it is

internalized (Sicilia et al., 2018). To illustrate, both a non-radical and a radical religious person

could say that their religious identity is coherent with their other values, thus integrated and

important in their life. New studies demonstrated that integrated regulation was related to both

undesired (e.g., obsessive passion) and desired (e.g., harmonious passion) outcomes regarding

activities (Sicilia et al., 2018). In group settings, these different types of passion were linked to

differing reactions to identity threats: while obsessive passion predicted extremism and violence,

harmonious passion predicted peaceful activism (Rip et al., 2012). Considering these recent

findings, we then predicted that integrated regulation should be associated with both collective narcissism and secure in-group identity.

Religious Orientations

A complementary perspective to SDT stems from research on religious orientations—the motivations behind religious beliefs (Hunt & King, 1971). Although these motives reflect one's individual religiosity, religion could be considered a social identity (Hall et al., 2010; Ysseldyk et al., 2010). In fact, many people consider their religious groups important to the self-concept (Freeman, 2003; Verkuyten & Yildiz, 2007). Yet, studies examining religion from social identity perspective are limited (Ysseldyk et al., 2010). Given the profound impact of religious groups in shaping both self and group relations (Kinnvall, 2004; Verkuyten & Yildiz, 2007), it is crucial to understand which motives underpin people's identification with these groups. Hogg et al. (2010) proposed that individual religious orientations determine the strength of identity with religious groups. However, considering the differing types of religious orientations (Allport & Ross, 1967), they could also determine the form of religious identities can take.

Similarly to SDT, research on the psychology of religion focuses on different types of motivations (Pargament, 2002; Ryan & Deci, 2000). In fact, we can observe some parallels between self-determination theorising and work on religious orientations, which differentiates between intrinsic and extrinsic orientations (Neyrinck et al., 2005). People with intrinsic religious orientation (i.e., intrinsic religiosity) internalize religious teachings and integrate them into their daily lives (Allport & Ross, 1967). The measurement of intrinsic religiosity reflects integration of religion in daily life (Neyrinck et al., 2005). Thus, intrinsic religiosity bears closer resemblance to *integrated* regulation from SDT (rather than to the similarly called intrinsic motivation; Neyrinck et al., 2005). Neyrinck et al. (2010) compared SDT motivations with religious orientations and found that self-determined motivations (combination of integrated and identified regulations) predicted intrinsic religiosity. Although both integrated and identified

regulations were combined in this study, previous theorisation (Neyrinck et al., 2005) draws out more similarity between intrinsic religiosity and integrated regulation.

Extrinsic religious orientation (i.e., extrinsic religiosity) refers to being motivated to value and practise religion to attain separable outcomes (Allport & Ross, 1967). Gorsuch and McPherson (1989) further differentiated between extrinsic social and extrinsic personal religiosity. While extrinsic social religiosity means being motivated to approach religion to establish social gains (e.g., networks and status), extrinsic personal religiosity means being motivated to obtain personal gains (e.g., security and comfort) through religion. The theoretical overlap for extrinsic religiosity and SDT is less straightforward because there is no explicit reference to being controlled versus autonomous in the measurement of religious orientations (see Neyrinck et al., 2005 for a detailed discussion). Non-self-determined motivations (a combination of external and introjected regulations) predicted extrinsic social religiosity, but not extrinsic personal religiosity (Neyrinck et al., 2010). Integrated and identified regulations did not predict either form of extrinsic religiosity (Neyrinck et al., 2010). Overall, this study suggests that at least extrinsic social religiosity is more akin to external and introjected regulations.

We argue that extrinsic religiosity might underlie people's religious collective narcissism. There is converging evidence that extrinsic forms of religiosity are related to being more prejudiced and hostile towards other religious groups (Batson et al., 1993; Hall et al., 2010; Lynch et al., 2017). Extrinsic religiosity is also related to being vengeful (Greer et al., 2005). All of these outcomes are also linked to collective narcissism (e.g., Dyduch-Hazar & Mroziński, 2021). As preliminary evidence, Golec de Zavala and Bierwiaczonek (2021, Study 2) found a positive correlation between both social and personal extrinsic religiosity and religious collective narcissism.[3] Thus, we expect that the two forms of extrinsic religiosity to be related to collective narcissism in our research.

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[3] In this study, religious orientations were not examined as predictors of religious collective narcissism.

Predictions for intrinsic religiosity are less straightforward. Early theory and research suggest that people with intrinsic religiosity are less prejudiced (Allport & Ross, 1967; see also Golec de Zavala et al., 2012). However, other studies yielded mixed results, with the relationship between intrinsic religiosity and prejudice ranging from being positive to negative and null (Hall et al., 2010; Hansen & Ryder, 2016; Herek, 1987). These inconsistent outcomes could suggest that the integration of religion does not indicate how it is internalized or the content of religious teachings being taken on (just as integrated regulation does not indicate how identity is internalized; Sicilia et al., 2018). Indeed, intrinsic religiosity is shown to correlate with a rigid understanding of religion (Ghorpade et al., 2010). In the study by Golec de Zavala and Bierwiaczonek (2021, Study 2) intrinsic religiosity was also correlated with religious collective narcissism. Thus, just as we predicted that collective narcissism and secure in-group identity would both be associated with integrated regulation, they are also both likely to be associated with intrinsic religiosity.

Overview

We investigated what types of individual motivations are related to collective narcissism versus secure in-group identity. To increase generalizability, we tested our predictions in different group contexts. We tested our hypotheses on self-determined and non-self-determined motives in personally important groups (Study 1) and in a national group (Study 2). Both in Studies 3 and 4, we focused on religious groups. In Study 3, we tested our predictions about religious orientations which are religion-specific. In Study 4, we aimed to replicate our findings for SDT-derived motives in a religious context, and to compare how the two motivational approaches map onto each other. In all studies, we used regression analyses and controlled for

the overlap between collective narcissism and in-group identification[4]. Variance inflation factor

(VIF) was below 10 across all studies, confirming that multicollinearity was not a problem

(Tabachnick & Fidell, 2007). Following past research (Cichocka et al., 2018; Marchlewska et al.,

2018), we controlled for demographic variables (i.e., age and gender) although we did not have

any specific predictions for them (exclusion of these variables does not change predicted

relationships– see Supplement). The data is available at

https://osf.io/f4vmq/?view_only=ed3f0bbcd0574fce802e8aae013f91f8.[5] In all studies,

participants responded to items on 7-point scales (1= *strongly disagree*, 7 = *strongly agree*).

Study 1

In Study 1, we applied SDT's perspective and tested the relationships between different

types of motives and collective narcissism (vs. secure in-group identity) in personally important

groups. We anticipated external, introjected and integrated regulations to be positively associated

with collective narcissism. We proposed that identified, integrated and intrinsic motivations to be

positively related to secure in-group identity. Amotivation should have a negative relationship

with both collective narcissism and secure in-group identity.

Method

Participants and Procedure. An a priori power analysis using Gpower (Faul et al.,

2007) determined the sample size of 200 with .80 power to detect an average effect size of *r* =

.21 in social psychology (Vazire, 2016). We recruited 246 first year psychology students to

participate in an online study for course credit. Participants were asked to indicate the most

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[4] Note that we also 1) examined the relationship between individual motivations and separate components of in-group identification, and 2) tested the results when not controlling for the overlap between different forms of identities (see Supplement).

[5] We also measured attachment to social groups (in Study 1) and entitativity (in Study 2) for exploratory purposes.

important group they belong to and responded to the rest of the questions with regard to that group (see Table 1). Thirty-four participants failed to indicate any group or dropped out, resulting in a final $N = 212$ participants (191 female, 20 male, 1 unknown), age range 18-33 ($M = 18.93$, $SD = 1.90$). We measured individual motivations to identify, collective narcissism, and in-group identification in a randomised order.

Measures.

Motivations to identify. were assessed with 18 items measuring six types of motives (Amiot & Sansfaçon, 2011): intrinsic (e.g., "Because I experience pleasure and satisfaction from being a member of this group"), integrated (e.g., "Because being a member of this group is really part who I am"), identified (e.g., "Because being a member of this group allows me to achieve important goals"), introjected (e.g., "Because being a member of this group makes me feel like I am a valuable person"), external (e.g., "Because being a member of this group allows me to compare positively to other groups of people in society") regulations and amotivation (e.g., "Honestly I don't know; I truly have the impression of not fitting in as a member of this group"). We computed six sub-scores[6] following Amiot and Sansfaçon (2011).

Collective narcissism. was measured with respect to the in-group participants indicated with nine items (Golec de Zavala et al., 2009), e.g., "My group deserves special treatment", "It really makes me angry when others criticize my group".

In-group identification. was measured with respect to the group participants indicated with Cameron's (2004) measure, which includes 12 items, representing three components: ties "I feel strong ties to other members of my group", centrality "I often think that fact that I am a member of my group", and affect "In general, I am glad to be a member of my group".

Results

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[6] See Supplement for information on confirmatory factor analysis (CFA) for this scale.

Descriptives and zero-order correlations are presented in Table 2. In-group identification was positively correlated with all individual motivations to identify apart from amotivation. Collective narcissism had a positive correlation with all motivations except intrinsic motivation. In this sample, collective narcissism and in-group identification did not correlate.

–Table 1–

–Table 2–

Regression Analyses

We conducted regression analyses with individual motivations as predictors of the two forms of in-group identity (Table 3). Non-self-determined motivations (i.e., external regulation and amotivation) positively predicted collective narcissism. With respect to self-determined motivations, integrated regulation positively predicted collective narcissism. However, intrinsic motivation negatively predicted it. Self-determined motivations (i.e., intrinsic motivation, integrated regulation) positively predicted secure in-group identity. Amotivation negatively predicted secure in-group identity.

–Table 3–

Discussion

Study 1 partially supported our hypotheses. We expected external regulation (identifying for recognition and prestige) and introjected regulation (identifying out of internal pressures and identity contingent self-worth) from non-self-determined motivations to be associated with higher collective narcissism. We confirmed our hypotheses for external regulation but not for introjected regulation. In Study 1, we wanted to test if our hypotheses hold across various groups. Due to monetary concerns, this study was conducted among university students who mostly indicated educational, intimacy, and recreational groups which are interpersonal network groups (Easterbrook & Vignoles, 2012). Perhaps, introjected regulation is not reflected in narcissistic identity with these groups. Some research suggests that abstract social categories such as nationality and ethnicity might be better at managing feelings of low self-esteem

(Johnson et al., 2006; see also Golec de Zavala et al., 2020), which is related to introjected regulation. However, in our data, only a small number of participants indicated such broader categories which did not allow us to inspect this link separately.

As expected, intrinsic motivation (identifying for the inherent satisfaction) was related to secure in-group identity. The more people were motivated to approach an identity only for the joy of it and not seeing it as a means to an end, the more likely they were to securely identify with their groups. We did not have a specific hypothesis for the relationship between intrinsic motivation and collective narcissism, but we found a negative association between these variables. This suggests that the more people embraced an identity for the inherent joy, the less likely they were to be narcissistic about their groups. SDT proposes that intrinsic motivation reflects a higher degree of autonomy (Ryan & Deci, 2003), which is associated with feelings of personal control (Fisher, 1978). Thus, these findings are consistent with past work linking high personal control with secure in-group identity and low personal control with collective narcissism (Cichocka et al., 2018; Marchlewska et al., 2020).

As both collective narcissism and secure in-group identity assume an investment in a personally relevant and valuable group, we expected and found them to be associated with integrated regulation (identifying because the identity is coherent with values and beliefs). Amotivation includes thoughts that the identification will not provide a desired outcome (Legault & Amiot, 2014). Thus, we expected it to be negatively associated with collective narcissism and secure in-group identity. The relationship between amotivation and secure in-group identity was in line with this hypothesis. However, amotivation was positively related to collective narcissism. Those who identify narcissistically hold their in-group in high regard, but they are also characterized by having chronic concerns that others do not appreciate it enough (Golec de Zavala et al., 2019). Although somewhat surprising, this effect might reflect these concerns.

In past work, having high and stable self-esteem was associated with identified regulation (Kernis et al., 2000). Because high self-esteem was linked to secure in-group identity (Golec de et al., 2020), we reasoned that people with a more stable self might rely on identified regulation when they identify. We predicted, but did not confirm, a positive relationship between identified regulation (identifying because it allows achieving personally important goals) and secure in-group identity. Task-oriented groups (e.g., occupation, educational) provide achievement, and intimacy groups (e.g., family, friends) mostly fulfil relational needs (Johnson et al., 2006). However, the identified regulation subscale measured personally important goals in an abstract way. This could explain the lack of the hypothesized relationship.

Study 2

In Study 2, we examined the same predictions as in Study 1 in the context of a national in-group. We hoped that this would provide a clearer pattern of results and make our results more comparable with past work that focused on SDT motives behind nationalism and patriotism (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011, Study 2).

Method

Participants and Procedure. As in Study 1, we aimed for a sample size of 200. We recruited 203 American participants via Prolific Academic. Seven participants indicated different nationalities and were excluded from analyses, resulting in a final $N = 196$ participants (104 female, 88 male, 4 unknown), age range18-76 ($M = 31.96$, $SD = 11.06$). Participants first reported individual motivations to identify, and then completed other measures in a random order.

Measures.

        Motivations to identify. as American were measured with 18 items by Amiot and Aubin

(2013), who proposed a new version of the SDT measure.[7] The items that assess identified

regulation differed from the original measure that was used in Study 1. A sample item for this

subscale was "Because being American allows me to have the quality of life I want". We

computed six subscales as in the previous study but dropped one item from identified regulation

subscale based on a CFA (see the Supplement)

        Collective narcissism. was assessed with a short, five-item version of the scale,

administered in relation to one's nationality (Golec de Zavala, Cichocka, & Bilewicz, 2013).

        In-group identification. was measured with respect to nationality with the same scale as

in Study 1.

Results

        Descriptives and zero-order correlations are presented in Table 4. Collective narcissism

and in-group identification were positively correlated with both self-determined (intrinsic,

integrated and identified regulations) and non-self-determined motivations (introjected and

external regulations). Collective narcissism was positively correlated with in-group

identification.

<p style="text-align:center">–Table 4–</p>

Regression Analyses

        We conducted regressions to examine the roles of individual motivations when predicting

two forms of in-group identity (Table 5). Non-self-determined motivations (i.e., external and

introjected regulations) positively predicted collective narcissism. In terms of self-determined

motivations, integrated regulation positively predicted collective narcissism. Self-determined

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[7] We received a French version of the measure from the first author (Amiot & Aubin, 2013). We translated (and

back-translated) it to English for the purposes of this study.

motivations (i.e., intrinsic, integrated, and identified) positively predicted more secure in-group identity. Amotivation negatively predicted secure in-group identity.

–Table 5–

Discussion

Study 2 confirmed most of our predictions. As expected, non-self-determined motives (introjected and external regulations) were positively associated with collective narcissism. As in Study 1, external regulation, which reflects the need to engage in positive intergroup comparisons or gain prestige, was linked to collective narcissism. In Study 2, we additionally confirmed that introjected regulation, which reflects having identity contingent self-worth was associated with collective narcissism. Thus, motivations controlled by rewards and self-obligations seem to underlie collective narcissism.

We also confirmed our predictions regarding self-determined motives. As in Study 1, intrinsic motivation was associated with secure in-group identity. Those who were more motivated to identify for inherent pleasure reported higher secure in-group identity. Past studies suggested that intrinsic motivation may not be beneficial in group settings as it was related to nationalism and in-group biases (Amiot & Aubin, 2013; Amiot & Sansfaçon, 2011). However, in both Studies 1 and 2, we observed a positive link only between intrinsic motivation and secure in-group identity. These findings suggest that nationalism might still capture feelings of inherent pleasure from national identification. In contrast, collective narcissism was either unrelated (Study 2) or negatively related (Study 1) to intrinsic motivation, implying that the motives to have genuine satisfaction from an identity are not reflected in collective narcissism. This finding suggests that collective narcissism might capture identity defensiveness more directly than nationalism.

As hypothesized, identified regulation—a self-determined motive capturing identifying because identity allows group members to accomplish personally valued objectives—had a

positive relationship with secure in-group identity, suggesting it may help individuals to achieve their objectives (Greenway et al., 2015). As in Study 1, integrated regulation was positively related to secure in-group identity and collective narcissism. Embracing an identity because it is coherent with other personal values and beliefs could be reflected in either form of in-group identity. This motive reflects integration of an identity into the self (Deci & Ryan, 2000). Given that both collective narcissism and secure in-group identity reflect an emotional investment in a group, the positive relationship between them and integrated regulation is consistent with the social identity perspective (Leach et al., 2008; Tajfel, 1981).

We anticipated a negative relationship between amotivation and two forms of identities. This prediction held true for secure in-group identity across Studies 1 and 2. Amotivation is a belief that identity will not provide desired outcomes (Amiot & Sansfaçon, 2011). It seems that the more people perceive identity as fruitful and their reasons behind group membership are clear, the more likely they have secure in-group identity. However, collective narcissism did not reflect a similar process.

Study 3

In Study 3, we investigated the intrinsic versus extrinsic differentiation with respect to religious orientations and tested how it is linked to collective narcissism and secure in-group identity. As intrinsic religiosity was related to mixed outcomes (Hall et al., 2010) and there is a theoretical overlap between integrated regulation and intrinsic religiosity (Neyrinck et al., 2005), we predicted intrinsic religiosity to be associated with both forms of identity. As extrinsic social and personal religiosity have been linked to prejudice and defensiveness (Beck, 2006; Hall et al., 2010; Lynch et al., 2017) and the former of these orientations was associated with external and introjected regulations (Neyrinck et al., 2010), we expected extrinsic social and extrinsic personal religiosity to be related to collective narcissism.

Method

Participants and Procedure. This study used the Time 3.5 sample of the New Zealand

Attitudes and Values Study (Sibley, 2018).[8] We analysed data coming from 1,690 religious

participants (1,118 female, 544 male and 28 unknown) who indicated their religious affiliations,

age range 18-92 (M = 50.45, SD = 16.15). Given that religious orientations might differ

depending on the religion (Ysseldyk et al., 2010), we controlled our analysis for Christian and

non-Christian affiliations in addition to demographics.

      Measures.

      Intrinsic religiosity. was measured with three items (Feagin, 1964): "My religious beliefs

are what really lie behind my whole approach to life", "I try hard to carry my religion over into

all my other dealings in life", "It important for me to spend periods of time in private thought

and meditation".

      Extrinsic personal religiosity. was measured with three items (Feagin, 1964): "The

purpose of prayer is to gain relief and protection", "What religion offers me most is comfort

when sorrows and misfortune strike", and "The purpose of prayer is to secure a happy and

peaceful life".

      Extrinsic social religiosity. was measured with three items (Gorsuch & McPherson,

1989): "I go to Church because it helps me to make friends", "I go to church mostly to spend my

time with my friends", "I go to church mainly because I enjoy seeing the people I know there".

      Religious identification. was measured with a single item (Hoverd & Sibley, 2010):

"How important is your religion to how you see yourself?"

      Collective narcissism. was measured with respect to religious identity with three items

from Golec de Zavala et al. (2009): "I insist upon my religious group/denomination getting the

respect that is due to it", "If my religious group/denomination had a major say in the world, the

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[8] Quest and religious fundamentalism were also measured as religious orientations but were not a part of our

hypotheses (see Supplement).

world would be a much better place", and "The true worth of my religious group/denomination is often misunderstood".

Results

Descriptives and zero-order correlations are displayed in Table 6. All variables were positively correlated.

–Table 6–

We conducted regression analyses to test how religious orientations are related to two forms of in-group identity (Table 7). As predicted, intrinsic religiosity positively predicted collective narcissism and secure in-group identity. However, extrinsic social and extrinsic personal religiosity only significantly (and positively) predicted collective narcissism.

–Table 7–

Discussion

Study 3 supported our predictions that collective narcissism and secure in-group identity are related to different types of religious orientations. Extrinsic social (similar to external and introjected regulations; Neyrinck et al., 2010) and personal religiosity were associated with collective narcissism. This indicates that doing religious activities for social gains and attaining solace were related to higher collective narcissism. Intrinsic religious orientation—a concept akin to integrated regulation we measured in Studies 1 and 2—predicted both collective narcissism and secure in-group identity. This result suggests that religion unifies other aspects of life both for those high in collective narcissism and secure in-group identity.

Study 4

In Study 4, we aimed to replicate our findings and integrate the frameworks of SDT and religious orientations. We examined how religious orientations are related to the SDT taxonomy of motivations to identify with a religious identity. Based on past research by Neyrinck et al. (2010) and the results of Study 3, we expected integrated regulation to be associated with

intrinsic religiosity. External and introjected regulations are likely to be related to extrinsic social religiosity. Again, we expected intrinsic motivation, integrated, and identified regulations as well as intrinsic religiosity to be related to secure in-group identity. We predicted integrated, introjected and external regulations along with extrinsic religiosity to be associated with collective narcissism.

Method

Participants and Procedure. An a priori power analysis (Faul et al., 2007) indicated the sample size as 402 to replicate the smallest effect size across Studies 1 and 2 ($\beta = 0.16$) with .90 power. We advertised the study to religious Christians on Prolific Academic and recruited 414 participants to allow for exclusions. Fifteen participants indicated that they do not identify as Christian, and thus were excluded from further analyses. The final dataset consisted of 399 religious participants (191 female, 207 male, 1 unknown), age range 18-84 ($M = 37.63$, $SD = 14.08$).

Measures.

      Individual motivations to identify. as Christian was measured with the scale (Amiot & Aubin, 2013) used in Study 2.

      Religious orientations. were measured with 12-item Age Universal I-E Scale (Maltby, 1999) which is derived and revised from Allport and Ross (1967). It includes six items measuring intrinsic religiosity (e.g., "I try hard to live all my life according to my religious beliefs"), three items assessing extrinsic personal religiosity (e.g., "What religion offers me most is comfort in times of trouble and sorrow"), and three items assessing extrinsic social religiosity (e.g., "I go to church because it helps me make friends").

      Collective narcissism. was assessed with respect to Christian identity with the 5-item version as in Study 2.

In-group identification. was measured with respect to Christian identity with the measure used in Studies 1 and 2.

Results

Descriptives and zero-order correlations are presented in Table 8. Note that identified regulation had a low reliability and we also observed problems with the factor structure of the scale when this subscale was included (see Supplement for details). To ensure comparability with Studies 1 and 2, we kept identified regulation in our analyses. However, the results for this subscale should be interpreted with caution.

–Table 8–

Associations between SDT motives and religious orientations.

As can be discerned from Table 8, intrinsic religiosity strongly correlated with integrated regulation. Extrinsic personal religiosity had positive correlations with self-determined and non-self-determined motives. Interestingly, extrinsic social religiosity had a positive relationship with amotivation.

We also tested how religious orientations (Allport & Ross, 1967) map onto SDT motivations (Deci & Ryan, 2000) with a regression model (Table 9). Integrated and external regulations predicted intrinsic religiosity. Introjected, identified, integrated regulations and intrinsic motivation predicted extrinsic personal religiosity. While identified regulation and intrinsic motivation positively predicted extrinsic social religiosity, this relationship was inverse for integrated regulation.

–Table 9–

SDT motives and religious orientations predicting two forms of identity.

First, we conducted regression analyses to confirm our hypotheses for SDT motivations. (Table 10). Introjected, external (non-self-determined motivations) and integrated regulations (self-determined) positively predicted collective narcissism. Self-determined motivations (i.e.,

integrated and identified regulations) positively predicted secure in-group identity. Amotivation and introjected regulation negatively predicted secure in-group identity.

–Table 10–

We then conducted regressions including religious orientations as predictors to replicate Study 3 (Table 11). Extrinsic personal and intrinsic religiosity predicted collective narcissism. Secure in-group identity was predicted only by intrinsic religiosity.

–Table 11–

Discussion

In Study 4, we examined how religious orientations map onto SDT motives. Consistent with previous theorising and research (Neyrinck et al., 2005; 2010), we found that intrinsic religiosity reflects integrated regulation. Additionally, we observed that external regulation is related to intrinsic religiosity, which is in line with past research demonstrating a link between intrinsic religiosity and a desire to enhance personal image through religion (Sedikides & Gebauer, 2010). Neyrinck et al. (2010) linked non-self-determined motives (i.e., introjected and external regulations) to extrinsic social religiosity. However, we found that self-determined motives (i.e., identified regulation and intrinsic motivation) were related to extrinsic social religiosity. Our results indicate that extrinsic social religiosity might mean a desire to establish belongingness through religion, which could be a personally important reason to identify and bring satisfaction with identity. While SDT motives were not related to extrinsic personal religiosity in past research (Neyrinck et al., 2010), we found that both self-determined (intrinsic motivation, identified, and integrated regulations) and non-self-determined (introjected) motivations were related to extrinsic personal religiosity. Thus, people might desire to gain personal security through religion freely or due to internal pressures. These results suggest that SDT motivations better differentiate what underlies defensiveness and security of in-group identity.

With the current study, we also had the opportunity to directly compare how the motives derived from SDT and religious orientations are linked to collective narcissism and secure in-group identity. As in Studies 1-2, external, introjected, and integrated regulations were related to collective narcissism. As in Study 3, intrinsic and extrinsic personal religiosity were related to collective narcissism. We did not find a relationship between extrinsic social religiosity and collective narcissism.

We confirmed our predictions for identified and integrated regulations as they were associated with secure in-group identity. While these results are consistent with Study 2, they should be interpreted cautiously with respect to identified regulation. Similar to Study 3, intrinsic religiosity was associated with more secure in-group identity. Interestingly, intrinsic motivation from SDT was unrelated to secure in-group identity in this study. Although this finding is surprising in comparison to Studies 1 and 2, measures assessing SDT motives with respect to religious activities exclude intrinsic motivation component (Neyrinck et al., 2006; Ryan et al., 1993). We kept intrinsic motivation to make our studies comparable. Perhaps intrinsic motivation defined within SDT is less applicable to religious social identity.

As in Studies 1 and 2, higher amotivation was related to having less secure identity, but was unrelated to collective narcissism. We did not have a specific prediction for the association between introjected regulation and secure in-group identity but found a small negative relationship. This suggests that those who identify out of internal pressures and contingent self-esteem are less likely to have secure in-group identification.

General Discussion

In four studies, we investigated motivations and orientations underlying collective narcissism and secure in-group identity in various groups. Studies 1, 2, and 4 inspected motivations identified by the SDT; Studies 3 and 4 examined religious orientations. Overall, we

demonstrated that secure in-group identity and collective narcissism were associated with a different set of motives to identify.

In general, non-self-determined motivations were associated with collective narcissism. Among these, we confirmed that external regulation (e.g., identifying for recognition and prestige, Studies 1, 2 and 4) and introjected regulation (e.g., identity dependent self-worth and internal pressures, Studies 2 and 4) were associated with higher collective narcissism. Extrinsic personal religiosity was related to collective narcissism (Studies 3 and 4).

These results highlight that those who identify for controlled reasons tend to report higher collective narcissism. This is consistent with past theorising suggesting that collective narcissism is a way of managing personal needs and dealing with self-imposed pressures and insecurities (Cichocka et al., 2018; Golec de Zavala et al., 2020; see also Fromm, 1973). Being motivated to identify mostly to gain self-worth could lead people to identify in a narcissistic way (Golec de Zavala et al., 2020). In this case, the image of the in-group becomes the proxy of one's individual self-worth. These findings could explain why people high in collective narcissism defend the grandiose group image vehemently (Golec de Zavala, Cichocka, & Iskra-Golec, 2013) and support populist leaders who promise to reassert the greatness of their group (Marchlewska et al., 2018).

Self-determined motives reflecting autonomous reasons to identify (intrinsic motivation in Studies 1 and 2, integrated regulation in Studies 1, 2, and 4, and identified regulation in Studies 2 and 4) were associated with secure in-group identity. Furthermore, in Studies 3 and 4, intrinsic religiosity (akin to integrated regulation) was associated with secure religious identity. These results suggest that identifying because one's identity is inherently satisfying (intrinsic), coherent with one's values (integrated), and allows one to reach personally important objectives (identified) underlies secure in-group identity.

While SIT would suggest that favourable in-group comparisons are crucial for achieving and maintaining positive social identity (Tajfel & Turner, 1986), the current results suggest that a secure form of in-group identity could be driven by autonomous (in a way non-comparative) reasons to identify. Deci and Ryan (2000) propose that self-determined motives bring an experience of autonomy. Even if some identities are ascribed, people still have some freedom when they are construing those (Vignoles, 2011). Thus, we argue that secure in-group identity is embraced more freely and not conditional on identity dependent rewards.

Our results support the argument that autonomous people are less defensive in general, including in the context of intergroup relations (Hodgins & Knee, 2002). The relationship we found between intrinsic motivation and secure in-group identity could explain why it has been linked to intergroup tolerance (Golec de Zavala, Cichocka, & Bilewicz, 2013). In fact, the current results suggest that the combination of integrated regulation with controlled motivations might link to more identity centrality and defensiveness in group contexts (c.f. Amiot & Aubin; 2013; Amiot & Sansfaçon, 2011).

Limitations and Future Directions

The current research is not without limitations. The correlational design of the studies prohibits us from drawing causal conclusions. We reasoned that different motivations underpin different forms of identity. However, these links could be reverse (e.g., collective narcissism could predict non-self-determined motivations) or bidirectional (e.g., self-determined motivations could predict secure in-group identity, but this form of identity could also contribute to having more self-determined motivations to identify). Future studies should test these possibilities by employing longitudinal methods. Although we aimed to cover various groups in Study 1, and focused both on nationality in Study 2, religion in Studies 3 and 4, we still relied on western, educated, industrialized, rich, and democratic samples (Henrich et al., 2010) in our data. Future work should aim to examine these processes in other social groups and other contexts.

Considering the problems with the identified regulation subscale, future work is needed to improve the measurement properties of it. Our comparison between the SDT taxonomy of motivations and religious orientations suggests that the latter approach should be further refined theoretically.

Conclusion

By bridging two frameworks of individual motivations, the current research contributes to understanding the motivational foundations of collective narcissism and secure in-group identity. Integration of an identity to the self and daily life was the only common motivation among two forms of in-group identity. Apart from that, different sets of motivations accompanied each form of in-group identity. While collective narcissism is conditional on identity contingent privileges and self-worth, secure in-group identity seems to capture freely motivated love for the in-group. Determining the motivations behind collective narcissism and secure in-group identity helps us understand their dramatically different outcomes.

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Manuscript Tables:

Table 1

Self-reported personally important groups (Study 1)

Educational

Intimacy

Recreational

Occupational

National, Gender, Sexual Orientation

Religious

Other[*]

Total

Note. This classification was based on DeMarco & Newheiser (2019). [*]Other groups included categories such as gamers and vegetarians which could not be classified in neither of the previous categories.

Table 2

Descriptive statistics and zero-order correlations between the variables in Study 1

Variables	*M*	*SD*	α	1	2	3	4	5	6	7
1. Intrinsic motivation	5.41	1.03	.86	-						
2. Integrated regulation	5.17	1.22	.89	.71***	-					
3. Identified regulation	5.20	1.17	.80	.44***	.60***	-				
4. Introjected regulation	3.94	1.17	.60	.38***	.41***	.43***	-			
5. External regulation	3.86	1.19	.62	.26***	.34***	.48***	.49***	-		
6. Amotivation	2.51	1.34	.88	.43***	.47***	-.30***	.03	-.01	-	
7. Collective narcissism	3.53	0.99	.85	.04	.26***	.25***	.22**	.44***	.14*	-
8. In-group identification	5.08	0.83	.86	.65***	.68***	.46***	.27***	.22**	-.63***	.11

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

Table 3

Individual motivations predicting two forms of in-group identity (Study 1)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.03(0.04)	.05	.53	0.02(0.03)	.03	.66	-0.10(0.03)	**-.22****	.002	-0.01(0.02)	-.01	.81
Gender[1]	-0.32(0.23)	-.10	.17	-0.23(0.20)	-.07	.24	0.03(0.19)	.01	.89	0.05(0.12)	.02	.70
In-group identification	0.13(0.08)	.11	.11	0.20(0.11)	.17	.08	—			—		
Collective narcissism	—			—			0.09(0.06)	.11	.11	0.08(0.04)	.09	.08
Intrinsic motivation				-0.28(0.08)	**-.29****	.001				0.22(0.05)	**.27*****	< .001
Integrated regulation				0.32(0.08)	**.39*****	< .001				0.16(0.05)	**.23****	.002
Identified regulation				-0.00(0.07)	-.00	.97				0.04(0.04)	.06	.29
Introjected regulation				-0.06(0.06)	-.07	.33				0.03(0.04)	.05	.38
External regulation				0.32(0.06)	**.39*****	< .001				-0.02(0.04)	-.03	.56
Amotivation				0.23(0.06)	**.32*****	< .001				-0.25(0.03)	**-.40*****	< .001
F	1.52			10.58***			4.22**			39.16***		
*R*²	.02			.32			.04			.62		
Δ*R*²				.30***						.58***		

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table 4

Descriptive statistics and zero-order correlations between the variables in Study 2

Variables	M	SD	α	1	2	3	4	5	6	7
1. Intrinsic motivation	3.68	1.57	.87	-						
2. Integrated regulation	3.86	1.85	.93	.86***	-					
3. Identified regulation	4.38	1.65	.81	.74***	.79***	-				
4. Introjected regulation	2.32	1.16	.69	.58***	.61***	.44***	-			
5. External regulation	3.24	1.50	.87	.73***	.68***	.68***	.61***	-		
6. Amotivation	3.66	1.53	.81	-.59***	-.71***	.71***	-.29***	-.47***	-	
7. Collective narcissism	2.41	1.22	.87	.61***	.63***	.47***	.55***	.59***	-.35***	-
8. In-group identification	4.08	1.12	.90	.81***	.84***	.79***	.45***	.62***	-.74***	.54***

Note. ***$p < .001$.

Table 5

Individual motivations predicting two forms of in-group identity (Study 2)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.01(0.01)	.10	.14	0.02(0.01)	**.14**	.01	0.01(0.00)	**.14****	.03	0.00(0.00)	-.00	.97
Gender[1]	0.20(0.15)	.08	.18	0.18(0.13)	.08	.16	0.02(0.14)	.01	.91	-0.02(0.08)	-.01	.76
In-group identification	0.55(0.07)	**.50*****	< .001	0.12(0.13)	.11	.32	—			—		
Collective narcissism		—			—		0.45(0.06)	**.50*****	< .001	0.04(0.04)	.05	.32
Intrinsic motivation				0.05(0.09)	.07	.56				0.23(0.05)	**.32*****	< .001
Integrated regulation				0.25(0.09)	**.38****	.005				0.18(0.05)	**.29****	.001
Identified regulation				-0.13(0.08)	-.17	.10				0.13(0.04)	**.19****	.003
Introjected regulation				0.17(0.07)	**.16****	.03				-0.07(0.05)	-.07	.13
External regulation				0.23(0.07)	**.29****	.001				-0.02(0.04)	-.02	.69
Amotivation				0.12(0.07)	.15	.09				-0.16(0.04)	**-.22*****	< .001
F		25.86***			19.99***			26.37**			39.16***	
R^2		.29			.50			.30			.79	
ΔR^2					.21***						.49***	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table 6

Descriptive statistics and zero-order correlations among the variables in Study 3

Variables	*M*	*SD*	α	1	2	3	4
1. Intrinsic religiosity	4.87	1.41	.72	-			
2. Extrinsic personal religiosity	3.89	1.39	.71	.18***	-		
3. Extrinsic social religiosity	2.27	1.24	.86	.13***	.20***	-	
4. Collective narcissism	3.62	1.41	.69	.44***	.22***	.24***	-
5. In-group identification	4.85	1.87	-	.68***	.14***	.12***	.50***

Note. ***$p < .001$.

Table 7

Religious orientations predicting two forms of in-group identity (Study 3)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	-0.01(0.00)	**-.08**[**]	.001	-0.01(0.00)	**-.11**[***]	< .001	-0.00(0.00)	-.02	.47	-0.01(0.00)	**-.10**[***]	< .001
Gender[1]	0.26(0.07)	**.09**[***]	< .001	0.30(0.07)	**.10**[***]	< .001	-0.23(0.09)	**-.06**[*]	.02	0.02(0.08)	.00	.82
Christianity[2]	-0.42(0.11)	**-.09**[***]	< .001	-0.48(0.10)	**-.10**[***]	< .001	0.18(0.14)	.03	.29	0.24(0.12)	**.04**[*]	.04
In-group identification	0.37(0.02)	**.50**[***]	< .001	0.25(0.02)	**.34**[***]	< .001	—			—		
Collective narcissism	—			—			0.67(0.03)	**.51**[***]	< .001	0.32(0.03)	**.24**[***]	< .001
Intrinsic religiosity				0.18(0.03)	**.18**[***]	< .001				0.78(0.03)	**.59**[***]	< .001
Extrinsic personal religiosity				0.12(0.02)	**.12**[***]	< .001				-0.03(0.03)	-.02	.32
Extrinsic social religiosity				0.18(0.03)	**.16**[***]	< .001				-0.02(0.03)	-.01	.46
F	129.60[***]			101.90[***]			120.48[***]			222.59[***]		
R^2	.27			.34			.26			.53		
ΔR^2				.07[***]						.27[***]		

Note. Gender[1] was coded as Female = 0, Male = 1. Christian affiliation[2] was coded as 0 = Non-Christian, 1= Christian.

Significant β values are in bold.

Table 8

Descriptive statistics and zero-order correlations among the variables in Study 4

Variables	M	SD	α	1	2	3	4	5	6	7	8	9	10
1. Intrinsic motivation	4.34	1.39	.72	-									
2. Integrated regulation	5.76	1.23	.89	.40***	-								
3. Identified regulation	4.68	1.20	.56	.68***	.50***	-							
4. Introjected regulation	3.65	1.49	.66	.52***	.23***	.55***	-						
5. External regulation	3.02	1.56	.81	.59***	.11*	.63***	.59***	-					
6. Amotivation	2.19	1.30	.83	-.03	-.52***	-.13**	.11*	.22***	-				
7. Intrinsic religiosity	5.45	1.12	.89	.34***	.71***	.44***	.19***	.18***	-.46***	-			
8. Extrinsic personal religiosity	5.23	1.15	.73	.48***	.33**	.51***	.43***	.43***	-.02	.38***	-		
9. Extrinsic social religiosity	3.15	1.52	.91	.26***	-.08	.29***	.17**	.26**	.23***	-.05	.16***	-	
10. Collective narcissism	3.69	1.48	.86	.43***	.45***	.49***	.44***	.51***	-.18***	.49***	.34***	.08	-
11. In-group identification	5.35	1.04	.89	.38***	.73***	.49***	.18***	.16***	-.61***	.72***	.26***	-.07	.51***

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

Table 9

Motivations from SDT predicting religious orientations (Study 4)

	DV = Intrinsic religiosity						DV = Extrinsic personal religiosity						DV = Extrinsic social religiosity					
	Step 1			Step 2			Step 1			Step 2			Step 1			Step 2		
Predictors	*B(SE)*	β	*p*	*B (SE)*	β	*p*	*B(SE)*	β	*p*	*B(SE)*	β	*p*	*B(SE)*	β	*p*	*B(SE)*	β	*p*
Age	0.01(0.00)	**.18*****	< .001	0.01(0.00)	**.08***	.03	-0.01(0.00)	-.07	.18	-0.01(0.00)	**.11***	.01	0.01(0.01)	-.04	.37	-0.00(0.01)	-.03	.51
Gender[1]	0.12(0.11)	.05	.28	0.00(0.08)	.00	.96	0.12(0.12)	.05	.31	0.18(0.10)	.08	.08	-0.46(0.15)	**.15****	.002	-0.33(0.15)	**-.11***	.02
Intrinsic motivation				-0.03(0.04)	-.03	.50				0.14(0.05)	**.17*****	.006				0.21(0.07)	**.19****	.006
Integrated regulation				0.55(0.05)	**.60*****	< .001				0.14(0.06)	**.15***	.01				-0.23(0.08)	**-.19****	.004
Identified regulation				0.05(0.05)	.05	.37				0.17(0.08)	**.18****	.008				0.46(0.10)	**.37*****	< .001
Introjected regulation				0.03(0.03)	-.04	.43				0.10(0.04)	**.14***	.01				-0.06(0.06)	-.06	.30
External regulation				0.12(0.04)	**.16****	.003				0.09(0.05)	.12	.08				-0.09(0.07)	-.09	.20
Amotivation				-0.14(0.07)	**-.16*****	< .001				0.03(0.05)	.03	.55				0.22(0.07)	**.19****	.001
F	7.60**			58.99***			1.35			25.48***			5.31**			1.72***		
R²	.04			.55			.00			.34			.03			.19		
Δ*R²*				.51***						.34***						.16***		

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table 10

SDT individual motivations predicting two forms of in-group identity (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	-0.00(0.01)	-.03	.50	0.01(0.00)	.02	.54	0.02(0.00)	**.20*****	< .001	0.01(0.00)	**.10****	.001
Gender[1]	-0.39(0.13)	**-.13****	.002	-0.15(0.11)	-.05	.20	0.26(0.09)	**.12****	.003	0.06(0.06)	.03	.37
In-group identification	0.75(0.06)	**.53*****	< .001	0.47(0.09)	**.33*****	< .001		—			—	
Collective narcissism		—			—		0.36(0.03)	**.50*****	< .001	0.14(0.04)	**.20*****	< .001
Intrinsic motivation				-0.05(0.06)	-.05	.37				0.04(0.03)	.05	.27
Integrated regulation				0.26(0.07)	**.21*****	< .001				0.32(0.04)	**.37*****	< .001
Identified regulation				-0.15(0.08)	-.12	.06				0.14(0.04)	**.16****	.001
Introjected regulation				0.16(0.05)	**.17****	.001				-0.06(0.03)	**-.09***	.03
External regulation				0.40(0.06)	**.39****	< .001				0.01(0.03)	.02	.68
Amotivation				0.01(0.06)	.00	.08				-0.26(0.03)	**-.33*****	< .001
F		51.20***			40.87***			61.44***			94.32***	
R^2		.28			.49			.32			.69	
ΔR^2					.21***						.37***	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table 11

Religious orientations predicting two forms of in-group identity (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	-0.00(0.01)	-.03	.50	0.00(0.00)	-.00	.94	0.02(0.00)	**.20*****	< .001	0.01(0.00)	**.11*****	.001
Gender[1]	-0.39(0.13)	**-.13*****	.002	-0.38(0.12)	**-.13*****	.002	0.26(0.09)	**.12*****	.003	0.13(0.07)	.06	.06
In-group identification	0.75(0.06)	**.53*****	< .001	0.50(0.09)	**.35*****	< .001	—			—		
Collective narcissism		—			—		0.36(0.03)	**.50*****	< .001	0.16(0.03)	**.23*****	< .001
Intrinsic religiosity				0.24(0.08)	**.18*****	.004				0.55(0.04)	**.59*****	< .001
Extrinsic personal religiosity				0.23(0.06)	**.18*****	< .001				-0.03(0.03)	-.04	.34
Extrinsic social religiosity				0.05(0.04)	.05	.20				-0.02(0.02)	-.03	.33
F	51.20***			34.29***			61.44***			86.94***		
R^2	.28			.35			.32			.57		
ΔR^2				.06***						.25***		

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Online Supplement
Overview

Past research showed that 18-items motivations to identify scale presents a six-factor structure, each including three items (Amiot & Sansfaçon, 2011). Following this past work, we ran confirmatory factor analyses (CFA) to validate the previously established six factor model with maximum likelihood estimation using Mplus 8 (Muthén & Muthén, 1998-2017) for Studies 1, 2, and 4.

For all studies, we also re-tested the links in the manuscript when not controlling for the overlap between collective narcissism, and also when not controlling for covariates (such as age, gender, and religious affiliation).

In-group identification has three subcomponents: ties, centrality, and affect (Cameron, 2004; Leach et al., 2008). We tested how individual motivations to identify from SDT are related to separate components of in-group identification in Studies 1, 2, and 4.

Finally, for Study 3, we included all the religious orientations in the dataset to examine how they are associated with different forms of identities.

Here, we report the results of these additional analyses. Note that overall, hypothesized relationships remained similar.

Study 1

For the CFA, we loaded each item to their respective factor following previous work (Amiot & Sansfaçon, 2011). Every item loaded onto their expected factors. However, the fit indices were poor, $X^2(153) = 2307.74$, $p < .001$, CFI = .88, SRMR = .10, RMSEA = .10. Based on the modification indices, we allowed two items measuring identified regulation to correlate with each other, and two items measuring intrinsic motivation to correlate with each other. Overall, this model showed acceptable fit indices $X^2(153) = 2307.742$, $p < .001$, CFI = .91, SRMR = .09, RMSEA = .08.

In Table S1, we report the analyses in the manuscript when not controlling for the overlap between collective narcissism and in-group identification. In Table S2, we present the analyses in the manuscript when not controlling for age and gender.

In Table S3, we present the relationships between SDT motivations and three components of in-group identification. Intrinsic motivation and integrated regulation positively predicted ties. Identified regulation and intrinsic motivation positively predicted affect component. Centrality was positively predicted by integrated regulation.

Table S1

Individual motivations predicting collective narcissism versus in-group identification (Study 1)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.01(0.04)	.02	.77	0.01(0.03)	.03	.67	-0.10(0.03)	**-.21****	.002	-0.00(0.02)	-.01	.85
Gender[1]	-0.32(0.23)	-.10	.17	-0.23(0.20)	-.07	.25	-0.01(0.19)	-.00	.98	0.03(0.12)	.01	.81
Intrinsic motivation				-0.24(0.08)	**-.25****	.004				0.20(0.05)	**.25*****	< .001
Integrated regulation				0.35(0.08)	**.44*****	< .001				0.19(0.05)	**.27*****	< .001
Identified regulation				0.01(0.07)	.01	.92				0.05(0.04)	.06	.29
Introjected regulation				-0.06(0.06)	-.07	.38				0.03(0.04)	.04	.44
External regulation				0.32(0.06)	**.39*****	< .001				0.00(0.04)	.00	.96
Amotivation				0.18(0.05)	**.25****	.001				-0.24(0.03)	**-.38*****	< .001
F		0.98			43.21***			5.00**			43.21***	
R^2		.01			.31			.05			.63	
ΔR^2					.30***						.59***	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table S2

Individual motivations predicting two forms of in-group identity without demographics (Study 1)

	Model 1						Model 2					
	Collective narcissism						In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
In-group identification	0.12(0.08)	.11	.12	0.17(0.11)	.14	.14	—			—		
Collective narcissism		—			—		0.10(0.06)	.11	.13	0.06(0.04)	.08	.14
Intrinsic motivation				-0.27(0.08)	**-.28****	.002				0.21(0.05)	**.27*****	< .001
Integrated regulation				0.33(0.08)	**.40*****	< .001				0.17(0.05)	**.25****	.001
Identified regulation				0.01(0.07)	.01	.89				0.04(0.04)	.05	.37
Introjected regulation				-0.06(0.06)	-.07	.34				0.04(0.04)	.05	.37
External regulation				0.31(0.06)	**.38*****	< .001				-0.02(0.04)	-.02	.69
Amotivation				0.23(0.06)	**.31*****	< .001				-0.25(0.03)	**-.39*****	< .001
F		2.34			12.89***			2.35			49.67***	
R^2		.01			.31			.01			.63	
ΔR^2					.30***						.62***	

Note. Significant β values are in bold

Table S3

Individual motivations predicting components of in-group identification (Study 1)

	DV= Ties				DV= Centrality				DV =Affect			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
Predictors	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β
Age	-0.07(0.04)	-.11	0.03(004)	.05	-0.05(0.03)	-.12	-0.00(0.02)	-.01	-0.13(0.04)	-.24**	-0.02(0.02)	-.04
Gender[1]	0.40(0.25)	.11	0.43(0.21)	.12*	-0.27(0.16)	-.11*	-0.23(0.14)	-.09	0.05(0.22)	.01	0.03(0.14)	.01
Collective narcissism	0.03(0.08)	.02	0.05(0.07)	.05	0.21(0.05)	.28***	0.09(0.05)	.13	0.04(0.07)	.04	0.10(0.05)	.10*
Intrinsic motivation			0.26(0.09)	.25**			0.10(0.06)	.15			0.29(0.06)	.32***
Integrated regulation			0.20(0.09)	.23**			0.20(0.06)	.34**			0.05(0.06)	.07
Identified regulation			0.00(0.07)	.00			-0.00(0.05)	-.00			0.11(0.05)	.13*
Introjected regulation			-0.08(0.06)	-.09			0.04(0.05)	.06			-0.03(0.05)	-.03
External regulation			-0.05(0.06)	-.06			0.07(0.05)	.11			-0.08(0.05)	-.10
Amotivation			-0.25(0.06)	-.31***			0.01(0.04)	.04			-0.33(0.04)	-.48***
F	1.53		14.47***		8.76***		12.39***		4.16**		35.08***	
R^2	.02		.39		.11		.36		.06		.61	
ΔR^2			.37***				.25***				.59***	

Note. Gender[1] was coded as Male = 0, Female = 1.

*p < .05. **p < .01. ***p < .001.

Study 2

Again, in line with previous work (Amiot & Sansfaçon, 2011), we ran a CFA for motivations to identify scale. At the first attempt, the model had a warning for identification problem positing latent external regulation factor. Inspecting the output, we did not find any negative residuals or correlations greater than one between the latent factors. However, we found that one item from identified regulation ("Because considering myself an American allows me to feel a part of a social group") had cross-loadings with multiple latent factors. In the final model, we dropped this item and achieved the following satisfactory fit indices, $X^2 (103) = 258.067$, $p < .001$, CFI = .94, SRMR = .05, RMSEA = .08.

In Table S4, we report the analyses in the manuscript when not controlling for the overlap between collective narcissism and in-group identification. In Table S5, we report the analyses in the manuscript when not controlling for age and gender.

In Table S6, we report the associations between relationships SDT motivations and three components of in-group identification. Intrinsic motivation positively predicted affect and ties. In addition, ties were predicted by identified regulation as well. Integrated regulation predicted centrality.

Table S4

Individual motivations predicting collective narcissism versus in-group identification (Study 2)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.02(0.01)	**.22****	.002	0.02(0.01)	**.14***	.01	0.03(0.01)	.25**	.001	0.00(0.00)	.01	.88
Gender[1]	0.28(0.17)	.11	.10	0.18(0.13)	.08	.16	0.14(0.16)	.06	.36	-0.02(0.08)	-.01	.83
Intrinsic motivation				0.08(0.09)	.11	.34				0.23(0.05)	**.33*****	< .001
Integrated regulation				0.28(0.09)	**.41****	.002				0.19(0.05)	**.31*****	< .001
Identified regulation				-0.11(0.07)	-.15	.13				0.13(0.04)	**.18****	.004
Introjected regulation				0.16(0.08)	**.15***	.04				-0.06(0.05)	-.07	.52
External regulation				0.23(0.07)	**.29****	.001				-0.01(0.04)	-.01	.86
Amotivation				0.10(0.07)	.12	.15				-0.16(0.04)	**.22*****	< .001
F		5.73**			22.37***			6.31**			85.78***	
R^2		.06			.49			.06			.78	
ΔR^2					.44***						.72***	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table S5

Individual motivations predicting two forms of in-group identity without demographics (Study 2)

	Model 1						Model 2					
	DV = Collective narcissism						DV = In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
In-group identification	0.59(0.07)	**.54*****	< .001	0.12(0.13)	.11	.33		—			—	
Collective narcissism		—			—		0.49(0.06)	**.54*****	< .001	0.04(0.04)	.05	.33
Intrinsic motivation				0.08(0.09)	.11	.36				0.23(0.05)	**.32*****	< .001
Integrated regulation				0.26(0.09)	**.39****	.005				0.18(0.05)	**.29****	.001
Identified regulation				-0.13(0.08)	-.18	.08				0.12(0.04)	**.18****	.005
Introjected regulation				0.16(0.08)	**.15****	.04				0.07(0.05)	-.07	.13
External regulation				0.21(0.07)	**.26****	.003				-0.02(0.04)	-.02	.71
Amotivation				0.09(0.07)	.11	.22				-0.17(0.04)	**-.23*****	< .001
F		78.54***			25.36***			78.54***			103.23***	
R²		.29			.49			.29			.79	
ΔR²					.20***						.50***	

Note. Significant β values are in bold

Table S6

Individual motivations predicting components of in-group identification (Study 2)

| | DV= Ties | | | | DV= Centrality | | | | DV =Affect | | | |
| | Step 1 | | Step 2 | | Step 1 | | Step 2 | | Step 1 | | Step 2 | |
Predictors	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β
Age	0.01(0.01)	.12	-0.01(0.01)	-.01	0.01(0.01)	.12	0.01(0.01)	.05	0.01(0.01)	.10	-0.01(0.01)	-.04
Gender[1]	-0.18(0.16)	-.08	-0.23(0.13)	-.10	0.20(0.18)	.07	0.20(0.13)	.07	0.04(0.19)	.01	-0.05(0.13)	-.02
Collective narcissism	0.28(0.07)	.30***	-0.05(0.07)	-.06	0.51(0.07)	.46***	-0.02(0.08)	-.02	0.56(0.08)	.46***	0.20(0.07)	.16**
Intrinsic motivation			0.24(0.09)	.32**			0.01(0.09)	.01			0.44(0.09)	.45***
Integrated regulation			0.11(0.09)	.17			0.41(0.09)	.54***			0.01(0.09)	.01
Identified regulation			0.04(0.08)	.06			-0.07(0.08)	-.08			0.42(0.07)	.45*
Introjected regulation			-0.03(0.08)	-.02			0.10(0.08)	.08			-0.29(0.08)	-.22**
External regulation			-0.04(0.07)	-.06			0.13(0.07)	.14			-0.14(0.07)	-.14*
Amotivation			-0.23(0.07)	-.29**			-0.13(0.07)	-.15*			-0.13(0.07)	-.09*
F	8.63***		16.76***		.37**		28.68***		19.69***		45.49***	
R^2	.12		.45		.25		.59		.24		.69	
ΔR^2			.33***				.33***				.45***	

Note. Gender[1] was coded as Male = 0, Female = 1.

*p < .05. **p < .01. ***p < .001.

Study 3

Self-reported religious affiliations included mostly Christian denominations: Anglican (14.9%), Catholic (19%), Presbyterian (6.6%), Christian not further defined (31.6%) and Christian other (14.7%). Non-Christian denominations (e.g., Hinduism, Buddhism) comprised the 9.8% of the data and the other 3.6% of the participants did not indicate their religious affiliation.

In Table S7, we report the analyses in the manuscript when not controlling for collective narcissism and in-group identification. In Table S8, we display the analyses in the manuscript when not controlling for age, gender, and Christian affiliation.

The analysis in Table S9 includes fundamentalism and quest orientations that were also measured in the data set along with the other variables tested in the manuscript. In this analysis, similar to intrinsic motivation, fundamentalism is associated with both secure in-group identity and collective narcissism. Altemeyer and Hunsberger (1992) propose that fundamentalism is a rigid way of understanding religion which usually predicts negative consequences (Hall et al., 2010). However, Ghorpade et al. (2010) argue that the principles of religious fundamentalism are compatible with intrinsic orientation. People with intrinsic orientation are expected to perceive God as omniscient and to have strong attachment to religious teachings to guide their lives (Mora et al., 2014). Quest orientation reflects an open-minded, questioning approach to religion and being comfortable with existential conflicts (Batson & Ventis, 1982). Quest had a small negative relationship with secure religious identity which seems to be in line with the argument that this orientation possibly measures religious conflict (Kojetin et al., 1987). Apart from these additional links, the main results reported in the manuscript held similar to the ones in here.

Table S7

Religious orientations predicting collective narcissism versus in-group identification (Study 3)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	-0.01(0.00)	**-.12****	.001	-0.01(0.00)	**-.15*****	< .001	-0.01(0.00)	**-.07****	.007	-0.02(0.00)	**-.13*****	< .001
Gender[1]	0.24(0.08)	**.08****	.004	0.33(0.07)	**.11*****	< .001	-0.07(0.11)	-.02	.52	0.12(0.08)	.03	.12
Christianity[2]	-0.47(0.12)	**-.10*****	< .001	-0.46(0.11)	**-.10*****	< .001	-0.14(0.17)	-.02	.41	0.09(0.12)	.01	.47
Intrinsic religiosity				0.41(0.02)	**.41*****	< .001				0.91(0.03)	**.69*****	< .001
Extrinsic personal religiosity				0.13(0.02)	**.13*****	< .001				0.02(0.03)	.01	.58
Extrinsic social religiosity				0.19(0.03)	**.17*****	< .001				0.04(0.03)	.03	.20
F		12.47***			90.29***			3.36*			219.72***	
R^2		.03			.28			.01			.49	
ΔR^2					.25***						.48***	

Note. Gender[1] was coded as Female = 0, Male = 1. Christian affiliation[2] was coded as 0 = Non-Christian, 1= Christian.

Significant β values are in bold.

Table S8

Religious orientations predicting two forms of in-group identity (Study 3)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
In-group identification	0.38(0.02)	**.50*****	.001	0.27(0.02)	**.36*****	< .001		—			—	
Collective narcissism		—			—		0.67(0.03)	**.50*****	< .001	0.34(0.03)	**.25*****	< .001
Intrinsic religiosity				0.16(0.03)	**.16*****	< .001				0.76(0.03)	**.58*****	< .001
Extrinsic personal religiosity				0.11(0.02)	**.11*****	< .001				-0.03(0.03)	-.02	.23
Extrinsic social religiosity				0.18(0.03)	**.15*****	< .001				-0.01(0.03)	-.01	.65
F		487.30***			163.32***			487.30***			388.32***	
R^2		.25			.31			.25			.52	
ΔR^2					.06***						.27***	

Note. Significant β values are in bold.

Table S9

All religious orientations predicting two forms of in-group identity (Study 3)

	Model 1						Model 2					
	DV = Collective narcissism						DV = In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	-0.01(0.00)	**-.08****	.001	-0.01(0.00)	**-.09*****	< .001	-0.00(0.00)	-.01	.47	-0.01(0.00)	**-.08*****	< .001
Gender[1]	0.26(0.07)	**.09*****	< .001	0.21(0.07)	**.07****	.002	-0.23(0.09)	**-.06***	.02	-0.09(0.07)	-.02	.24
Christianity[2]	-0.42(0.11)	**.50*****	< .001	-0.71(0.10)	**-.15*****	.001	0.17(0.14)	.03	.22	-0.07(0.12)	-.01	.54
In-group identification	0.37(0.01)	**.50*****	< .001	0.20(0.02)	**.25*****	.001		—			—	
Collective narcissism		—			—		0.67(0.03)	**.51*****	< .001	0.23(0.03)	**.18*****	< .001
Intrinsic religiosity				0.14(0.03)	**.25*****	< .001				0.71(0.03)	**.54*****	< .001
Extrinsic personal religiosity				0.11(0.02)	**.11*****	< .001				-0.03(0.03)	-.02	.26
Extrinsic social religiosity				0.17(0.03)	**.15*****	< .001				0.00(0.03)	.00	.99
Fundamentalism				0.21(0.03)	**.23*****	< .001				0.23(0.03)	**.19*****	< .001
Quest				0.01(0.02)	.02	.50				-0.07(0.03)	**-.06****	.005
F		129.60***			91.81***			120.48*			199.28***	
R²		.27			.10			.26			.56	
Δ*R²*					.25***						.30***	

Note. Gender[1] was coded as Female = 0, Male = 1. Christian affiliation[2] was coded as 0 = Non-Christian, 1= Christian.

Significant β values are in bold.

Study 4

In Study 4, self-reported religious denominations included Catholic (34.1%), no particular denomination and other (18%), Protestant (12.8%), Baptist (10%), Pentecostal (8%), Methodist (4.5%), Lutheran (3.8%), Day Saints (3.8%), Anglican (2.3%), Presbyterian (1.5%), Orthodox (1%), Jehovah's Witnesses (0.3%).

In the first CFA, the model was not identified and the warning posited a problem for the latent factor of identified regulation. Inspecting the output, we found that identified regulation factor had extremely high correlations with integrated regulation ($r = .99$) and intrinsic motivation ($r = .95$) factors. Therefore, we dropped this latent factor from the final model. Also, based on the modification indices, we allowed two items assessing introjected regulation to correlate with each other, and two items measuring intrinsic motivation to correlate with each other. Doing so, the model reached the following satisfactory fit indices, $X^2 (78) = 286.110$, $p < .001$, CFI = .93, SRMR = .08, RMSEA = .08.

In table S10, we report the relationships between SDT motives and Allport's religious orientations, when not controlling for age and gender.

In Tables S11 and S13, we report the main analyses in the manuscript when not controlling for the overlap between collective narcissism and in-group identification. Not controlling for collective narcissism, external regulation had a positive relationship with in-group identification (Table S11). Not controlling for in-group identification, we found that amotivation negatively predicted collective narcissism (Table S11).

In Tables S12 and S14, we report the main analyses in the manuscript when not controlling for age and gender. When we did not control for age and gender, the reported negative relationship between introjected regulation and in-group identification became insignificant.

In Table S15, we present the relationships between SDT motivations and each components of in-group identification. Integrated, identified, and external regulations positively predicted ties. Affect was positively predicted by identified and integrated regulations. Integrated regulation positively predicted centrality.

Table S10

Motivations from SDT predicting religious orientations from Allport excluding age and gender (Study 4)

Predictors	DV = Intrinsic religiosity			DV = Extrinsic personal religiosity			DV = Extrinsic social religiosity		
	B(SE)	β	*p*	*B(SE)*	β	*p*	*B(SE)*	β	*p*
Intrinsic motivation	-0.01(0.04)	-.01	.81	0.13(0.05)	**.16***[*]	.01	0.18(0.07)	**.16***[*]	.02
Integrated regulation	0.54(0.04)	**.59***[***]	< .001	0.15(0.05)	**.16***[**]	.007	-0.26(0.08)	**-.21***[**]	.001
Identified regulation	0.05(0.05)	.05	.40	0.18(0.07)	**.19***[**]	.008	0.48(0.10)	**.38***[***]	< .001
Introjected regulation	-0.03(0.03)	-.04	.43	0.11(0.04)	**.15***[**]	.008	-0.07(0.06)	-.07	.27
External regulation	0.11(0.04)	**.16***[**]	.004	0.08(0.05)	.10	.11	-0.05(0.07)	-.05	.45
Amotivation	-0.15(0.04)	**-.17***[***]	< .001	0.04(0.05)	.05	.35	0.22(0.07)	**.19***[**]	.001
F		77.45***[***]			31.85***[***]			14.92***[***]	
R^2		.54			.33			.19	

Note. Significant β values are in bold.

Table S11

SDT individual motivations predicting collective narcissism versus in-group identification (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.01(0.01)	**.10***	.04	0.01(0.00)	.06	.13	0.02(0.00)	**.25*****	$< .001$	0.01(0.00)	**.11*****	$< .001$
Gender[1]	-0.27(0.15)	-.09	.07	-0.13(0.11)	-.04	.27	0.16(0.10)	.08	.11	0.04(0.07)	.02	.57
Intrinsic motivation				-0.04(0.06)	-.04	.53				0.03(0.03)	.04	.37
Integrated regulation				0.44(0.07)	**.36*****	.001				0.38(0.04)	**.44*****	$< .001$
Identified regulation				-0.08(0.08)	.07	.28				0.13(0.04)	**.15****	.003
Introjected regulation				0.15(0.05)	**.15****	.003				-0.04(0.03)	-.05	.16
External regulation				0.44(0.06)	**.47*****	$< .001$				0.08(0.03)	**.12***	.02
Amotivation				-0.13(0.05)	**-.12***	.02				-0.28(0.03)	**-.35*****	$< .001$
F		3.48*			39.67***			14.76***			95.86***	
R^2		.02			.45			.07			.66	
ΔR^2					.43***						.59***	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table S12

SDT individual motivations predicting two forms of in-group identity without demographics (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
In-group identification	0.72(0.06)	**.51*****	.001	0.48(0.09)	**.34*****	.13	—			—		
Collective narcissism		—			—		0.36(0.03)	**.51*****	< .001	0.15(0.03)	**.21*****	< .001
Intrinsic motivation				-0.05(0.06)	-.05	.53				0.05(0.03)	.08	.06
Integrated regulation				0.23(0.07)	**.19****	.001				0.32(0.04)	**.37*****	< .001
Identified regulation				-0.14(0.08)	.11	.07				0.13(0.04)	**.16****	.001
Introjected regulation				0.17(0.05)	**.17****	.001				-0.06(0.03)	-.09	.02
External regulation				0.41(0.05)	**.44*****	< .001				-0.00(0.03)	-.00	.96
Amotivation				-0.00(0.06)	-.00	.97				-0.28(0.03)	**.34*****	< .001
F		137.65***			51.53***			137.64***			117.67***	
R^2		.25			.48			.26			.66	
ΔR^2					.22***						.42***	

Note. Significant β values are in bold.

Table S13

Allport's religious orientations predicting collective narcissism versus in-group identification (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
Age	0.01(0.01)	**.10**[*]	.04	0.00(0.01)	.04	.38	0.02(0.00)	**.25**[***]	.001	0.01(0.00)	**.12**[**]	.001
Gender[1]	-0.27(0.15)	-.09	.07	-0.34(0.13)	**-.11**[**]	.009	0.16(0.10)	.08	.11	0.08(0.07)	.04	.28
Intrinsic religiosity				0.56(0.06)	**.42**[***]	< .001				0.65(0.04)	**.69**[***]	< .001
Extrinsic personal religiosity				0.23(0.06)	**.18**[***]	< .001				0.01(0.04)	.01	.89
Extrinsic social religiosity				0.05(0.04)	.05	.29				-0.02(0.03)	-.02	.51
F		3.48[*]			31.58[***]			4.76[***]			89.80[***]	
R^2		.02			.29			.07			.53	
ΔR^2					.27[***]						.46[***]	

Note. Gender[1] was coded as Male = 0, Female = 1.

Significant β values are in bold.

Table S14

Allport's religious orientations predicting two forms of in-group identity without age and gender (Study 4)

	Model 1						Model 2					
	DV= Collective narcissism						DV= In-group identification					
	Step 1			Step 2			Step 1			Step 2		
Predictors	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*	*B (SE)*	β	*p*
In-group identification	0.72(0.06)	**.51*****	< .001	0.48(0.08)	**.34*****	< .001		—			—	
Collective narcissism		—			—		0.36(0.03)	**.51*****	< .001	0.16(0.03)	**.22*****	.001
Intrinsic religiosity				0.24(0.08)	**.18*****	< .001				0.59(0.04)	**.63*****	< .001
Extrinsic personal religiosity				0.22(0.06)	**.17*****	< .001				-0.04(0.03)	-.05	.20
Extrinsic social religiosity				0.08(0.04)	.08	.06				-0.03(0.02)	-.05	.16
F		137.64***			47.40***			137.64***			60.33***	
R²		.26			.33			.26			.55	
Δ*R²*					.07***						.29***	

Note. Significant β values are in bold.

Table S15

Individual motivations predicting components of in-group identification (Study 4)

	DV= Ties				DV= Centrality				DV =Affect			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
Predictors	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β	*B(SE)*	β
Age	0.02(0.00)	.17***	0.01(0.00)	.12**	0.01(0.00)	.14**	0.01(0.00)	.06	0.01(0.00)	.17***	0.00(0.00)	.05
Gender[1]	0.11(0.12)	.04	0.00(0.11)	.00	0.37(0.12)	.14**	0.10(0.10)	.04	0.30(0.10)	.15**	0.07(0.07)	.03
Collective narcissism	0.44(0.04)	.47***	0.15(0.05)	.16**	0.37(0.04)	.41***	0.20(0.04)	.22	0.25(0.03)	.36***	0.08(0.03)	.12**
Intrinsic motivation				.08			-0.03(0.05)	-.04			0.06(0.04)	.09
Integrated regulation				.23***			0.40(0.06)	.37***			0.28(0.04)	.33***
Identified regulation				.15*			0.11(0.07)	.10			0.14(0.05)	.16**
Introjected regulation				-.07			-0.03(0.04)	-.04			-0.08(0.03)	-.11*
External regulation				.17**			-0.07(0.05)	-.08			-0.05(0.04)	-.08
Amotivation				-.24***			-0.25(0.05)	-.25***			-0.28(0.03)	-.36***
F	46.88***		37.95***		35.93**		40.83***		29.78**		57.48***	
R²	.26		.47		.21		.49		.19		.57	
Δ*R²*			.21***				.27***				.39***	

Note. Gender[1] was coded as Male = 0, Female = 1.

*p < .05. **p < .01. ***p < .001.

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