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The reciprocal relationship between social identification and social support over time: A four-wave longitudinal study

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Abstract

It has been argued that the positive effect of a shared social identity on health and well-being critically hinges on the interplay between social identity and social support. This interplay, however, is poorly understood. Building on Haslam et al., we argue that their relationship can be conceptualized as being reciprocal and dynamic with each variable influencing the other. The present study is the first to examine how the reciprocal relationship between social identification and perceived social support unfolds over time. In a sample of university freshmen (N_{T1} = 172), we examined this reciprocal relationship in a four-wave survey study spanning over a period of 13 months. In line with Haslam et al., the results revealed a self-reinforcing cycle with social identification at T1 being positively related to perceived social support at T2, which, in turn, was positively related to social identification at T3, which predicted perceived social support at T4. In conclusion, our study advances knowledge regarding the interplay between social identity and social support over time and, hence, contributes to our understanding of the mechanisms underlying the social cure effect.

KEYWORDS
dynamic relationship, social cure, social identity, social support

BACKGROUND

The social identity approach to health and well-being posits that a shared social identity, that is, a feeling of togetherness and a sense of belonging to a social group, is crucial in promoting health and well-being (for an overview, see Haslam et al., 2018). Research on the mechanisms and processes underlying this positive effect emphasizes that it critically hinges on a close psychological partnership between social identity and social support (Haslam et al., 2012; Häusser et al., 2020). At its core, this research argues that a shared social identity should increase the likelihood (and also effectiveness) of mutual social support due to perceived joint aims, norms, and values within a group, and that social support, in turn, accounts for the positive effects on health and well-being (Van Dick & Haslam, 2012). Although there is robust evidence for this proposed effect, both from longitudinal and experimental studies (e.g., Junker et al., 2019), a strict unidirectional relationship between both constructs is still unlikely.

In a seminal paper on the relationship between social identity and social support, Haslam et al. (2005) reported evidence for the proposed mediation of the positive relationship between social identity and well-being via perceived social support. However, due to the cross-sectional design of this study, no clear-cut evidence for the direction of the effects could be established. In their discussion, Haslam et al. (2005) argued that a reciprocal relationship between social identification and social support is very likely, with social identification promoting social support, which in turn should foster social identification (and so on). Although this notion of a potentially reciprocal relationship between social identification and social support had already been put forward 17 years ago, to the best of our knowledge, no study has addressed this notion, and, more specifically, has analysed how this relationship between social identity and social support unfolds over time. Thus, almost all previous studies, examining the interplay between social identification and social support, used cross-sectional designs, that is, they assessed perceived social support and social identification at the same time of measurement which precludes strong inferences regarding reciprocal relationships (e.g., Alnabulsi et al., 2018; Avanzi et al., 2015; Bruner et al., 2021; Cassidy, 2004; Drury et al., 2016; Gleibs et al., 2011; Haslam et al., 2005; Junker et al., 2019; Ntontis et al., 2021; Walsh et al., 2015).

To the best of our knowledge, the present longitudinal study is the first investigation that simultaneously examines the pathways from perceived social support to social identification and from social identification to perceived social support. Specifically, we conducted a four-wave longitudinal study with a newly formed ad-hoc group of university freshmen over the course of 13 months to analyse the dynamic interplay of social identity and perceived social support over time.

Social identity as a predictor of social support

Van Dick and Haslam (2012) proposed that the positive effects of a shared social identity on well-being are partially due to an increased likelihood of mutual social support. In this vein, social support acts as a crucial resource to cope with stress and is, therefore, a powerful predictor of well-being (see Taylor, 2011, for an overview).

Generally, a shared social identity has been proposed to broaden the boundaries of concern by including others within an overarching 'us'. As a consequence, a member of a group or social category expects other members of this group or category to care about their interests (because interests are perceived as similar) and therefore are motivated to help them (Reicher et al., 2009). Moreover, social support should be more likely to occur in groups with high levels of shared social identity, because a shared social identity entails the perception of mutual goals, and group members coordinate their actions to reach these mutual goals (Haslam et al., 2005). In other words, members of groups with high levels of a shared social identity should be inclined to provide support to each other because they believe that this would be in the collective interest of the group. In addition, strongly identified group members should be more likely to embrace support, because they will perceive this support as stemming from the benevolent motives of their fellow group members, rather than being

attributed to less prosocial motives such as reciprocity expectations or implicit criticism (cf. Häusser et al., 2020).

There is empirical evidence for the proposed causal effect of social identity on social support. For example, in a field experiment, Levine et al. (2005) manipulated social identity salience of football fans and found that when a mutual social identity (e.g., being a fan of a certain football team) was salient, participants showed increased actual helping towards another member of this social group. In particular, results showed that a narrowly defined social category, that is, being a fan of Manchester United, limited social support to only those who were also fans of Manchester United. However, when a more inclusive social category was made salient (all football fans), Manchester United fans were as likely to help a person in a Liverpool shirt as they were to help a person in a Manchester United shirt. In another experimental study, Levine and Thompson (2004) showed that the financial support people provided to victims of a disaster depended on their sense of sharing a social identity with those victims. Furthermore, Junker et al. (2019, Study 2) conducted a field experiment with a manipulation of social identification that yielded the predicted positive effect on (perceived) social support. Finally, there is ample research from the literature on emergency and crowd events showing that in events such as earthquakes or fires mutual social support between those who are affected is likely to occur spontaneously and that a shared social identity due to the mutual experience of threat is likely to be a foundation of this mutual social support (Drury et al., 2016, 2020). There is evidence that, in case of disasters, the perception of a common fate can build into the development of a shared social identity which, in turn, leads members of this 'disaster community' to engage in more supportive behaviour (see Drury et al., 2019 and Carter et al., 2020 for an overview and discussion). For example, in a survey with 1240 individuals affected by the 2010 Chile earthquake, Drury et al. (2016) found that a perception of common fate due to disaster exposure was related to both the provision of social support and the expectation of receiving social support from fellow sufferers. In sum, there is sound theorizing as well as empirical support for the proposed causal effects of social identification on social support.

Social support as a predictor of social identity

Interestingly, the theoretical arguments underlying the positive effect of social identity on social support also imply the possibility of a reversed effect: In general, it has been argued that others' (normative) behaviour conveys information about their category membership (Drury et al., 2003). Particularly, if others provide social support, this can signal to the support receiver that these others care about him or her, which is a good indicator that they are a part of 'us' (Alnabulsi et al., 2018). Moreover, when a group or social category has emerged, the experience of other group members being supportive might be interpreted as a signal that this behaviour serves mutual goals. Therefore, perceived social support from members of a group should reinforce social identification with this specific group (Haslam et al., 2005). In line with this notion, Cassidy (2004) argued that being part of a supportive and effective group builds a sense of community, and hence identification with this group should increase. Similarly, McKimmie et al. (2019) emphasized the idea of social support as a marker of—or signal for—group membership that should result in increased identification with this group.

Research from mass gatherings and emergency situations further points to the role of perceived social support, or the expectation of social support from fellow group members, in the emergence of ad-hoc shared social identities (Drury et al., 2019). For example, in a survey study with pilgrims attending the Hajj, Alnabulsi et al. (2018) found that the perception of social support from fellow pilgrims was related to a higher levels of social identification with the crowd, which in turn was related to reports of giving support. Furthermore, the effects of social support on social identities can also extend to post-event social support that fosters and maintains a shared social identity (e.g., 'survivors' in case of catastrophes or 'alumni' in case of university students, cf. Drury et al., 2019).

It is important to note, however, that the findings stem from cross-sectional studies (e.g., Alnabulsi et al., 2018; Avanzi et al., 2015; Haslam et al., 2005) and, therefore, do not allow for strong inferences

regarding causal direction. Thus, in contrast to the social identification to social support pathway, experimental evidence is sparse for the pathway from social support to social identification. A notable exception is the study by McKimmie et al., 2019, Study 1) that used a computer-mediated team environment with an experimental manipulation of social support. During a problem-solving task, participants received (vs. did not receive) standardized social support (text messages). The results revealed that in the social support condition participants reported stronger identification with the group relative to a control condition.

While this study provides clear-cut evidence for the idea that social support causally affects social identification, there is so far no study that has fully unravelled the reciprocal relationship between social identification and social support by testing both directions simultaneously. In particular, it is yet unclear how such a reciprocal relationship would unfold over time.

The present research

Using a longitudinal design with four points of measurement, we put forward two complementary hypotheses regarding the dynamic interplay of social identification and perceived social support.

H1 : Social identification at T_n is positively associated with social support at T_{n+1}.

H2 : Social support at T_n is positively associated with social identification at T_{n+1}.

METHOD

Sample and procedure

Before the start of a winter term, we invited all incoming first-semester students in the Bachelor programs of a medium-sized European university [location withheld for blind review] to participate in our study. The final sample size of our study was determined by the size of the sample population and the response rate at T0. Because we were interested in the emergence of social identification and perceived social support, our sample population was restricted to university freshmen at a specific university. Overall, we contacted about 1300 incoming students of whom 225 completed a pre-screening questionnaire (pre-study; T0). Participants were contacted again 2 months after taking up their studies (T1, $N = 172$), at the end of the first term during the exam period (T2; $N = 162$), at the beginning of their third term (T3; $N = 118$), and at the end of the third term during the exam period (T4; $N = 112$). The attrition rate from T1 to T4 (the relevant measurement points for our analyses) was 34.9%. We conducted dropout analyses with respect to demographic variables and key study variables at T1. Participants who dropped out of the sample during the course of the study (from T1 to T4) did not differ from participants who remained in the sample with respect to gender; dropouts: 88.3% females versus remaining participants: 87.5% females, $\chi^2 (1) = .025$, $p = .874$, or age; $M_{dropouts} = 20.22$, $SD_{dropouts} = 3.30$ versus $M_{remaining\,participants} = 20.00$, $SD_{remaining\,participants} = 2.33$, $t(170) = -0.50$, $p = .618$. Also drop-outs did not differ from remaining participants in social identification; $M_{dropouts} = 3.64$, $SD_{dropouts} = 0.86$ versus $M_{remaining\,participants} = 3.82$, $SD_{remaining\,participants} = 0.72$, $t(170) = 1.45$, $p = .149$, or social support; $M_{dropouts} = 3.93$, $SD_{dropouts} = 1.14$ versus $M_{remaining\,participants} = 4.04$, $SD_{remaining\,participants} = 1.05$, $t(170) = 0.62$, $p = .539$. Thus, there was no evidence of selective dropouts.

Our analyses were based on a total N_{T4} of 112 students (87% female; mean age = 20.0 years, $SD = 2.33$). Our sample covers a large number of fields of study (e.g., teacher training, mathematics, psychology, chemistry, biology, languages and interpreting, historical sciences). All participants were paid $2 \times €25$ (about 22 GBP) after T2 and T4. Data collection was conducted in compliance with the principles of the Declaration of Helsinki.

Measures[1]

Social identification

To measure participants' identification with their fellow students at all four times of measurement, a four-item scale was constructed based on existing measures (Doosje et al., 1995; Mojzisch et al., 2021). Items ("I feel connected with my fellow first-year psychology students"; "Having a good relationship with my fellow first-year psychology students is very important to me"; "My fellow first-year psychology students and I share many interests and activities"; "I feel a strong sense of belonging with my fellow students") were answered on a five-point scale; internal consistency ranged from $\alpha = .85$ to $\alpha = .88$ over all times of measurement.

Perceived social support

Perceived social support from fellow students was measured at all four times of measurement with two items reflecting instrumental and emotional support ("*To what extent do you receive practical support from your fellow students?*", "*To what extent do you receive emotional support from your fellow students?*") on a six-point scale. Because we had no a-priori hypothesis regarding the differential mechanisms of the two types of support, we combined both items to obtain a broader operationalization of this construct. The correlation between the two items ranged from $r = .51$ to .66 over times of measurement.

RESULTS

We predict lagged effects of social identification at an earlier time being related to perceived social support at a later time (H1) and vice versa (earlier perceived social support being related to later social identification; H2). To test our hypotheses, we used the lavaan package in RStudio (Rosseel, 2012) to calculate path models (Finkel, 1995; Little et al., 2007). More specifically, we simultaneously tested the cross-effects between times of measurement (T_n—Social Identification ➡ T_{n+1}—Perceived Social Support and T_n—Perceived Social Support ➡ T_{n+1}—Social Identification) while controlling for the auto-correlations (T_n—Social Identification ➡ T_{n+1}—Social Identification and T_n—Perceived Social Support ➡ T_{n+1}—Perceived Social Support). Hypotheses were tested at $p < .05$ (two-tailed). We report unstandardized coefficients. Correlations, means, and standard deviations of all study variables are displayed in Table 1.

Hypotheses tests

Analyses revealed significant auto-correlations between all successive measurement times for social identification as well as for perceived social support (all ps < .001), indicating relative stability of the constructs over the whole study period of 13 months. Nonetheless, we found evidence for the predicted relations between both constructs: T1—social identification was related to T2—perceived social support ($B = .29$, $SE = .14$, $p = .036$), and T3—social identification was related to T4—perceived social support ($B = .39$, $SE = .10$, $p < .001$). However, for the interval between T2 and T3, this relationship failed to reach significance ($B = .18$, $SE = .12$, $p = .128$). Hypothesis 1 was therefore partially supported. With respect to perceived social support as a predictor of social identification, this relationship was evident only for the interval between T2 and T3 ($B = .20$, $SE = .06$, $p = .001$),

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[1]This is the first publication from this dataset. However, this research was part of a larger research project on school-to-university transitions. The questionnaires therefore included a number of constructs that are not relevant for the present research (e.g., study demands, financial situation, education, leisure activities).

TABLE 1 Means, standard deviations, and zero-order correlations

Variable	Means	SD	1	2	3	4	5	6	7
1. Social Identification T1	3.82	0.72	–						
2. Social Support T1	4.04	1.05	.57	–					
3. Social Identification T2	3.84	0.76	.67	.44	–				
4. Social Support T2	4.05	1.09	.47	.59	.46	–			
5. Social Identification T3	3.84	0.80	.53	.36	.55	.47	–		
6. Social Support T3	4.09	1.09	.39	.38	.34	.52	.71	–	
7. Social Identification T4	3.83	0.90	.48	.36	.48	.38	.77	.58	–
8. Social Support T4	3.97	1.17	.44	.45	.39	.59	.61	.67	.64

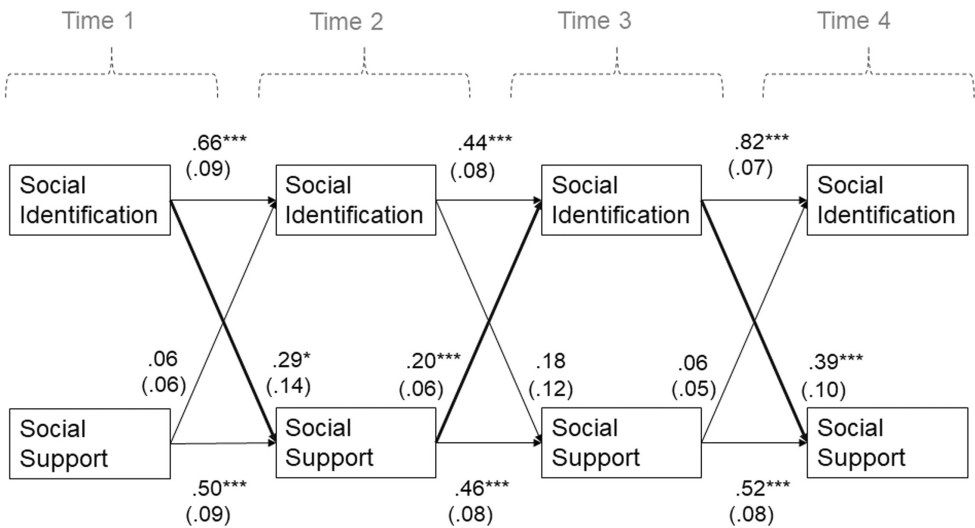*Note*: N = 112; All values are significant at *p* < .001.

FIGURE 1 Path model of the interplay between social identification and social support over time. Unstandardized estimates are reported. **p < .05; ***p < .001*

but not for the T1 to T2 interval (*B* = .06, *SE* = .06, *p* = .328), or for the T3 to T4 interval (*B* = .06, *SE* = .05, *p* = .283). Hence, Hypothesis 2 was also partially supported. However, the empirical evidence was stronger for Hypothesis 1 compared with Hypothesis 2. In other words, the influence of social identification on perceived social support seems to be more pronounced than the influence in the opposite direction. Overall, the pattern of results reveals a dynamic process of social identification at T1 being positively related to perceived social support at T2, which in turn was positively related to social identification at T3, which again was related to perceived social support at T4 (Figure 1).

Exploratory findings

In line with the assumption of Haslam et al. (2005), we found a dynamic reciprocal relationship between social identification and perceived social support unfolding over time. Furthermore, our sample of a newly formed ad-hoc group of university freshmen also allowed us to explore which of the two variables acts as a potential starting point or trigger for these reciprocal effects. In newly formed ad-hoc groups,

members share no mutual history, thus, one of the two phenomena may emerge first. Does social identification precede perceived social support or is it the other way around?

Our finding that T1—social identification significantly predicted T2—perceived social support, while T1—perceived social support was unrelated to T2—social identification tentatively suggests that in our study context, social identification was the likely starting point of the reciprocal dynamic relationship between social identification and perceived social support over time. We will return to this issue in the Discussion section.

DISCUSSION

Previous field studies that aimed to examine the interplay between social identification and perceived social support used designs measuring both variables at the same point of time (e.g., Alnabulsi et al., 2018; Avanzi et al., 2015; Bruner et al., 2021; Cassidy, 2004; Drury et al., 2016; Gleibs et al., 2011; Haslam et al., 2005; Junker et al., 2019; Ntontis et al., 2021; Walsh et al., 2015). Although the possibility of a reciprocal relationship between social identification and social support had already been put forward over 17 years ago by Haslam et al. (2005), so far—to the best of our knowledge—this hypothesis has not been tested. Here, we used a longitudinal design with four points of measurement over a period of 13 months to examine how the relationship between social identification and perceived social support unfolds over time. We found that, in a newly formed ad-hoc group of university freshmen, social identification at T1 was positively related to perceived social support at T2, which, in turn, was positively related to social identification at T3, which finally predicted perceived social support at T4. Hence, as predicted by Haslam et al. (2005), our study provides evidence for the dynamic reciprocal relationship between social identification and perceived social support over time.

From a theoretical perspective, the present findings underpin the need to account for temporal dynamics within models of social identity (cf. Condor, 1996). Henri Tajfel (1982) already emphasized that social identity is rather a process than a state. Therefore, accounting for micro-temporal (e.g., situational contexts) as well as macro-temporal (e.g., stability and continuity) aspects of social identity is crucial. While research on the social identity approach to health and well-being (Haslam et al., 2009) often focuses on micro-temporal aspects, such as the salience of group membership in a specific context (e.g., Häusser et al., 2012; Ketturat et al., 2016; Reicher & Haslam, 2006; van Dick et al., 2017), the macro-temporal perspective has received less attention in previous research (with the exception of social identity change in the context of life transitions, e.g., Haslam et al., 2019; Jetten et al., 2009). Interestingly, even seemingly stable social identities are shaped by temporal processes, because they rely on continuous social reproduction, and should therefore be conceptualized as relationships over time (Condor, 1996). In our study, we show that one way through which such social reproduction unfolds over time is perceived social support. Perceived support in groups is hence not only a powerful resource contributing to individual group members' well-being and group success but also a means to increase or at least maintain group members' identification with the group over time.

The emergence of social identification and social support in newly formed groups

As a second insight, our analyses give first evidence that, at least in our sample, social identification, rather than perceived social support was the likely starting point of the reciprocal relationship. Hence, social identification within a newly formed group of university beginners may not depend in the first place on prosocial in-group behaviour (such as social support), but may stem from social-cognitive processes, such as self-categorization (Turner et al., 1994), similarity (Hogg et al., 1995), or social

comparisons (Hogg, 2000) as an initial impulse. Once a shared social identity is established, social support becomes more likely on this soil of mutual values, norms, and goals (cf. Van Dick & Haslam, 2012).

However, this order of events may be highly context dependent and dependent on features of the group in question. Since the students in our study were approached at the beginning of the academic year, it is likely that there had not been that many possibilities to provide social support and that is why social identification was the stronger driver at T1. This might explain why social identification in our study emerged to be the starting point of the reciprocal relationship over time. In other cases, interaction and mutual social support might precede social identification, for example in more informal groups like a group of friends or a neighbourhood. Moreover, often groups are formed for a certain purpose and this purpose can explicitly focus on helping each other (e.g., self-help groups like Alcoholics Anonymous or weight loss groups). In groups, whose aim is to provide social support, it is very likely that perceived social support precedes social identification. In conclusion, when drawing conclusions about whether social identification or social support comes first in newly formed groups the characteristics of the specific group as well as the context have to be taken into account.

Limitations and future research

Providing a first-time test of the reciprocal relationship between social identification and perceived social support over time, our study advances our understanding of the mechanisms underlying the social cure effect (Haslam et al., 2009). However, there are limitations of our study that need to be put forth.

First, we used self-reports only. This, however, should be a minor problem with respect to social identification, which is inherently a highly subjective cognitive-emotional construct, perhaps best measured via self-report. Regarding social support, however, our study is only able to inform about *perceived* social support *received* from in-group members. Our study design does not allow for assessing *actual* social support *between* study participants. However, it has been argued that it is particularly the perception of being supported and cared about by others that has a powerful impact on well-being (cf. Norris & Kaniasty, 1996)—even if this perception does not perfectly reflect actually received support. In line with this notion, it has been shown that perceived support has stronger effects on mental health when compared with actual support (e.g., McDowell & Serovich, 2007). Thus, one might argue that the effective part of social support critically hinges on its subjective perception and attribution (see also Häusser et al., 2020, for a discussion). We call for future studies to follow up on the objective and subjective features of social support and their relationship with social identity. In particular, they should complement our approach by also including objective measures of mutual social support. This, however, requires a different methodological approach, for example, observational studies or teamwork simulations.

The second limitation of our study refers to the external validity of our results. Note that the in-group referred to in our study, that is, fellow university beginners in the same cohort and field of study, is a rather broad and inclusive social category. Although participants should have held strong mental representations about this social category (in terms of tasks, roles, and prototypical characteristics), they may not have actually interacted with the majority (or at least a substantial amount) of the group members on a daily basis. However, social support is an interactive and interpersonal behavioural phenomenon. We therefore predict that the relationships found in our study might be even stronger in better defined (and smaller) groups with more frequent and more intense interaction (e.g., work teams, sports teams, task forces). Future research is needed to generalize our findings beyond the university context and to identify relevant moderators such as group size or interaction patterns.

Third, although we found that social identification was the starting point of the reciprocal relationship between social identification and perceived social support, we have to acknowledge that this finding should not be overgeneralized as it might be highly context specific (see above). Therefore, we encourage other researchers to replicate our findings using other contexts and other types of ad-hoc

groups. We see our study as a first step in advancing social identity theorizing by accounting more explicitly for temporal dynamics.

Finally, the attrition rate of 34.9% from T1 to T4 was relatively high in our study, which might be due to the long total duration of our study (13 months). Moreover, typically a considerable share of university beginners drops out during the first year. Dropout analyses revealed no selective dropouts.

Practical implications

Mutual social support is a powerful resource in groups. On the one hand, social support helps the individual group members facing threats and coping with stress, in particular, if the provider and recipient perceive each other as members of the same social category (Frisch et al., 2014). On the other hand, mutual social support is functional for reaching group-based goals and to increase the effectiveness of the group as a whole (Hüffmeier & Hertel, 2011). This may be particularly true for newly-formed groups when group self-definition and group membership is still fragile and when a modus operandi of mutual performance is yet to be established (Tuckman, 1965). Our study reveals a potential practical access to social support in ad-hoc groups: Interventions that enhance individuals' identification with a group (for a review and meta-analysis, see Steffens et al., 2021) are likely to set off a cascade of mutual positive influences of social identification and social support. Hence, if measures are taken to increase group members' identification, this is likely to successively produce the desired effect on mutual social support. Ideally, this develops into a self-reinforcing cycle of social identity and social support, maintaining both important factors for individual well-being and group performance on high levels.

AUTHOR CONTRIBUTIONS
Jan Häusser: Conceptualization; funding acquisition; writing – original draft; writing – review and editing. **Sascha Abdel Hadi:** Data curation; formal analysis; writing – review and editing. **Charlene Reichelt:** Conceptualization; data curation. **Andreas Mojzisch:** Conceptualization; funding acquisition; writing – review and editing.

CONFLICT OF INTEREST
All authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT
Data will be made publically available in the OSF upon publication.

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