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# Intergroup behavior in military multiteam systems

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## Abstract

The use of multiteam systems is increasing rapidly, as the diversity in skills and knowledge they supply assists organizations in responding more effectively to volatile environments. Multiteam systems consist of teams that depend on each other to achieve a common overarching goal, while simultaneously pursuing different proximal goals. However, multiteam systems often struggle to achieve the expected level of synergy. Multiteam system scholars have speculated that this may be owing to the presence of multiple teams within multiteam systems. Negative effects of salient group identities are well-documented, and yet there is no published empirical evidence of these same effects in multiteam systems yet. In this article, we examine the extent to which salient component team identities lead to multiteam system intergroup behavior. Given the nascent state of multiteam system research, we used Eisenhardt's method to generate theory from case studies. Three military multiteam systems were studied, with data

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collected before and during a deployment to Afghanistan. The study's findings contribute to our understanding of multiteam systems in several ways. First, the study provides empirical evidence that multiteam systems are vulnerable to intergroup behavior. Second, it shows how boundary spoilers, a well-designed team-building period and effective multiteam system leadership influence if and how multiteam system intergroup behavior develops. Finally, the results underscore the importance of existing knowledge of teams and groups in furthering our understanding of multiteam system processes.

### **Keywords**

boundary spoiler, case study research, intergroup behavior, military, multiteam system leadership, multiteam systems

## **Introduction**

Globalization and new technologies have created a changed playing field for many organizations. Subsequently, diversity in both knowledge and skills, as well as flexibility, is more than ever a necessity. Multiteam systems (MTSs) have emerged as a new organizational form to complement the more conventional structures in dealing with these challenges. This 'unique organizational arrangement' (Marks et al., 2005) consists of:

... two or more [component] teams that interface directly and interdependently in response to environmental contingencies toward the accomplishment of collective goals. MTS [multiteam system] boundaries are defined by virtue of the fact that all teams within the system, while pursuing different proximal goals, share at least one common distal goal; and in doing so exhibit input, process and outcome interdependence with at least one other team in the system. (Mathieu et al., 2001: 290)

The diversity in skills and knowledge present in MTSs allows them to deal with highly turbulent environments that place a premium on adaptability (DiazGranados et al., 2014: 96; Zaccaro et al., 2012: 3–4), and creates the synergy of knowledge and skills necessary to be effective in such contexts. Although the number of MTSs is clearly rising (Zaccaro et al., 2012: 4), MTSs often struggle to achieve the level of synergy expected (Zaccaro et al., 2012: 16). The military setting provides ample examples of this struggle such as the stabilization efforts in Afghanistan and Mali, where the military, diplomats and aid workers jointly try to create safe and stable states – a goal impossible for the military apparatus to achieve alone.

So, why do these MTSs struggle? Several MTS scholars (e.g. Connaughton et al., 2012; Luciano et al., 2018) have theorized that the problems MTSs encounter stem from the presence of multiple teams, and therefore identities, as team boundaries can generate salient team identities that in turn can negatively impact MTS effectiveness. When individuals are confronted with members of other groups, they tend to 'strive to achieve or to maintain a positive social identity' (Tajfel and Turner, 1986: 16). If such a group identity is salient, individuals start to categorize people as a part of either an ingroup or an outgroup (Turner, 1982). This categorization causes various effects, such as reduced

**Table 1.** Eight steps by Eisenhardt linked to placement in this article.

| Steps (Eisenhardt)                | Discussed in section                      |
|-----------------------------------|---|
| Step 1: Getting started           | Introduction; Main theoretical constructs |
| Step 2: Selecting cases           | Method; Case selection and setting        |
| Step 3: Instruments and protocols | Method; Data collection methods           |
| Step 4: Entering the field        | Method; Data collection methods           |
| Step 5: Analyzing data            | Results                                   |
| Step 6: Shaping hypotheses        | Results                                   |
| Step 7: Enfolding literature      | Conclusion and discussion                 |
| Step 8: Reaching closure          | Conclusion and discussion                 |

interaction with other groups (Keyton et al., 2012: 180) and social stereotyping (van der Vegt and Bunderson, 2005).

As the negative effects of salient group identities are well known, one can wonder if and how these processes occur in MTSs, and consequently affect MTS effectiveness. Hence, the key question this article addresses is: ‘To what extent do salient component team identities lead to MTS intergroup behavior and which other variables influence this process?’ Connaughton et al. (2012), Luciano et al. (2018) and Marks et al. (2005) all suggest that MTS cross-team processes are pivotal for MTS effectiveness. Despite this, no empirical evidence on MTS intergroup behavior has been reported. Understanding the influence of salient team identities in MTSs will increase our understanding of the possible causes of MTS failure (Shuffler et al., 2015), and help evaluate the synergy that allegedly makes MTS special. This focus has led us into unknown territory as there is no MTS-specific empirical or theoretical knowledge on the subject. Hence, Eisenhardt’s (1989) widely recognized approach to building theory based on case study research is used to answer our key question (see Table 1). This study also responds to the repeated call for more longitudinal, in-depth and empirical research on MTSs ‘in the wild’ (Shuffler et al., 2014: 11) using both qualitative and quantitative data (Burke, 2014: 28). Three military MTSs are studied both before and during deployment in Afghanistan. Our in-depth analysis of these three cases provides four propositions regarding MTS intergroup behavior and other variables that influence this process, and it suggests actions that may foster MTS effectiveness.

## Main theoretical constructs

Eisenhardt (1989) argues that defining a priori constructs in case study research allows researchers to measure constructs more accurately. In response, this study adopts two a priori constructs: *social identity* and *MTS intergroup behavior*.

### *Social identity*

Social identity theory (SIT) explains the psychological base for intergroup behavior (Tajfel, 1982). In this, Tajfel defines social identity as: ‘that part of the individuals’

self-concept which derives from their knowledge of their membership of a social group (or groups) together with the value and emotional significance attached to that membership' (Tajfel, 1982: 2).

Thus, social identity is formed by an individual's perception of belonging to a certain group (Tajfel and Turner, 1986: 16). If individuals perceive themselves to be members of a group, they feel their fate is psychologically intertwined with the fate of that group, and that they share in the failures and successes of the group (Turner, 1982). Organizational and team identities are a special form of social identification (Ashforth and Mael, 1989) in that both create social boundaries and have specific cultures, characteristics and jargon (Hogg and Terry, 2000). The central proposition of SIT is that, in intergroup contexts, people 'strive to achieve or to maintain a positive social identity' (Tajfel and Turner, 1986: 16). A positive social identity is achieved through favorable comparisons with other groups (Turner, 1982).

### *MTSs intergroup behavior*

Contextual factors influence whether an identity category becomes salient (Tajfel, 1982). Once a group identity becomes salient, a so-called process of categorization starts. Categorization activates group norms. According to the social categorization theory, 'group norms arise from the interaction between group members and they express a generally accepted way of thinking, feeling or behaving' (Turner, 1991: 3). Categorization has various effects, such as the development of shared norms (Hogg et al., 1995), less interaction with other groups (Keyton et al., 2012: 180), social stereotyping (van der Veegt and Bunderson, 2005), discrediting other groups (van Dick, 2001), increased group cohesion (Hogg and Terry, 2001: 5), emotional contagion (Kelly and Barsade, 2001) and put-down jokes about other groups (Ferguson and Ford, 2008). Within social psychology, intergroup behavior is seen as occurring 'whenever individuals belonging to one group interact, collectively or individually, with another group or its members in terms of their group identification' (Sherif, 1966: 12). The phrase 'in terms of their group identification' emphasizes that group norms guide the behavior of the individual or group. Hence, we define MTS intergroup behavior as that which occurs 'whenever individuals belonging to one component team interact, collectively or individually, with another component team or its members in terms of their group identification'.

The two a priori constructs described above have guided the data collection and analysis phases of this study although, at the same time, we have remained alert for other relevant constructs that might emerge from the data. The key question is: 'To what extent do salient component team identities lead to MTS intergroup behavior and what other variables influence this process?'

## **Method**

### *Case selection and setting*

Eisenhardt (1989) proposes controlling for extraneous variation as much as possible, and choosing extreme cases or opposites such that the process of interest is 'transparently observable' (Eisenhardt, 1989: 537).

In 2011, Dutch armed forces were deployed to the northern Afghan province of Kunduz. As support for these troops, the army deployed small engineering taskforces to Kunduz and Mazar-e Sjariff to build infrastructure, such as offices, helicopter platforms, electrical plants, drainage systems and roads. We chose to study these taskforces as they are relatively simple MTSs: two consisting of two component teams and one of three component teams. Another reason for choosing these taskforces is the extreme situation in which they operated: the MTS members were in enforced proximity to each other. Extreme situations cause the processes of interest to manifest themselves, thereby enabling learning (Morse and Field, 1996). A third reason was the ideographic character. The uniforms with insignias as well as the distinct organizational structure (Ashforth and Mael, 1989) made it feasible to study intergroup behavior. Fourth, the task interdependencies between the various players in a construction process are easy for an outsider to follow. Fifth, the lead researcher knew that similar MTSs were going to be deployed in the future. Sixth, the three MTSs have many similarities in terms of origin, size, task and deployment length and, therefore, provide an opportunity to gather empirical data with limited extraneous variations. Finally, as a faculty member of the Defence Academy, the lead researcher had full access to the taskforces.

The MTSs were each studied over 6 to 12 months. All three MTSs were drawn from a Dutch military battalion tasked with infrastructural work outside the Netherlands. This battalion consists of three construction companies (in the military sense) plus a contractor's office. The construction companies are responsible for the actual construction tasks, whereas the contractor provides planning and monitoring. An overview of the case characteristics and the main players in each case is provided in Table 2.

### *Data collection methods: Interviews*

*Number of interviews.* Eighty-five semi-structured interviews were conducted with MTS members and stakeholders prior to, during and after their deployment. Stakeholders are those who closely interacted with, but were not part of, the MTS. In the first case, 26 interviews with MTS members and 14 interviews with stakeholders were conducted. In the second case, the numbers were 30 and 5, respectively. In the third case, 10 interviews with MTS members took place but none with stakeholders. In addition to the semi-structured interviews, the first researcher had numerous informal conversations with MTS members during lunch and coffee breaks. In the first case study, 550 informal conversations took place, in the second 675, and in the third 150 conversations. The thematic content of the informal conversations did not differ from the semi-structured interviews. The informal conversations provided an opportunity to validate observations, talk to every MTS member, and keep track of changes.

*Interview protocol.* The semi-structured interviews followed an interview protocol. They started with an introduction to the research, its funding, privacy matters, time estimation, permission to audio-record the interview, and recognition of our appreciation for taking part. The interviewees were told that anonymity was ensured as the research team members were the only ones that had access to the recordings and read the transcripts. In the interview protocol, the introduction was followed by a list of six topics:

**Table 2.** Overview of the case characteristics and the main players in each case.

|                                 | Case 1   | Case 2  | Case 3  |
|---------------------------------|--|---|---|
| Component teams                 | Contractor team ( <i>n</i> = 7)<br>Construction team ( <i>n</i> = 16)  | Contractor team ( <i>n</i> = 4)<br>Construction team ( <i>n</i> = 10)<br>Candl team ( <i>n</i> = 8)   | Contractor team ( <i>n</i> = 4)<br>Construction team ( <i>n</i> = 9)  |
| Main players, contractor team   | <i>Zack</i> : First-lieutenant promoted to captain for the duration of the deployment, MTS leader and contractor team commander<br><i>Roger</i> : Sergeant-Major, second-in-command MTS<br><i>Aaron</i> : Sergeant-Major, construction engineer<br><i>Max</i> : Captain, civilian takes over <i>Zack</i> 's role | <i>Leo</i> : Warrant-officer, second in command MTS<br><i>Frank</i> : Warrant-officer, electrical engineer<br><i>Simon</i> : Warrant-officer, construction engineer                                       | <i>John</i> : Sergeant-Major, second-in-command MTS and contractor team commander<br><i>Matthew</i> : Sergeant-Major, electrical engineer   |
| Main players, construction team | <i>Jim</i> : First-lieutenant, commander construction team<br><i>Jonas</i> : Sergeant, second-in-command construction team   | <i>Chris</i> : Captain, MTS leader and commander construction team<br><i>Jamie</i> : Sergeant, second-in-command construction team, construction engineer<br><i>Bratt</i> : Sergeant, electrical engineer | <i>Pete</i> : First-lieutenant, MTS commander and commander of the construction team<br><i>Seth</i> : Corporal, member installation group<br><i>Ryan</i> : Sergeant, commander installation group |
| Main players, Candl team        | –  | <i>Olof</i> : Sergeant-Major, commander Candl team  | –   |
| Deployment period               | May 2012 to August 2012  | August 2012 to November 2012  | March 2013 to June 2013   |

Candl = Communication and information team; MTS = Multiteam system.

the deployment, atmosphere in component team, cohesion in component team, atmosphere in the MTS, cohesion in the MTS, and events the first researcher wanted to verify. The topics were logically interwoven in the interview to create a natural flow. Prior to the deployment, questions were asked about the amount of inter-team contact, past experiences, the level of cooperation and current team spirit. These questions provided information about the salience of component team identities, MTS identity and MTS intergroup behavior. During the deployment, the focus was on the current situation. The first researcher was able to be present in Afghanistan for 2 weeks during the deployment of the second MTS. During the deployments of the other two MTSs, the research team relied on phone interviews and stakeholders' comments. Permission was gained from the MTS members before contacting any of the stakeholders for an interview. The stakeholders were asked what they had observed and what the MTS members had told

them. After the deployment, all the original interviewees were re-interviewed. A typical interview lasted 1–2 hours.

*Transcription process.* The first researcher and two external transcribers transcribed the recorded interviews. An interview, through tone of voice and body language, reveals more than just what is being said. To prevent the loss of these non-verbal cues in the transcription process, the first researcher referred to them during the interviews. For instance, if an interviewee would smile when answering a question, the first researcher would say, ‘I see that the question makes you smile, can you explain why?’ Similarly, when wanting to ensure the tone of voice was accurately interpreted, the interviewee would, for example, ask: ‘Can you explain why you are being sarcastic?’

*Validity and reliability.* To increase the validity of the interview data, the first researcher made efforts to build rapport by showing the interviewees that she could be trusted with the information, that she was genuinely interested, that she remembered their last conversation and what they had previously told her, and by being polite. Further, clarifying questions were asked and examples sought. To reduce the likelihood of interviewees trying to please the interviewer, she refrained from taking sides. Moreover, the open character of the interview format allowed the interviewee to decide what information they felt important to share, rather than being ‘pushed’ in a certain direction.

The reliability of the interview data was increased by crosschecking reported events. For example, if an incident had occurred, all the individuals involved were asked to tell what had happened from their perspective. To limit the risk of memories becoming clouded, interviews were held during or shortly after events occurred. Further, all the interviews took place somewhere private, and the interviewees were reminded that only the research team had access to the data.

### *Data collection methods: Participative observation*

*Form of participative observation.* A mix of moderate and active participation observations were used. The position of the first researcher while overhearing conversations will influence the quality of the data. At the start of the research, the first researcher would sit at the table during meetings. However, this led to her becoming part of the dynamics and MTS members becoming more aware of her presence. These were effects we wanted to avoid, as they influence natural processes. Nevertheless, when ‘listening in’ or observing MTS members, she always made her presence known. The lead researcher tried to be present so as to be able to observe many formal and informal events, and moved around in the offices and outside to catch as much information, and see as many interactions, as possible. During these observation periods, a combination of field notes and recordings was used as recording meetings/conversations was more reliable than just taking notes. During recordings, notes were also taken regarding the context, for example, ‘I would rather not enter that door’ (points to the contractors’ office), the atmosphere (e.g. Bratt and Simon joke around while working), facial expressions (e.g. Zack looks very surprised) and body language (e.g. Jonas shrugs).

**Table 3.** Examples of the codes used in the analyses.

| Terms or constructs apparent in the data  | Constructs derived from theory  |
|---|---|
| <p><i>Role of humor</i><br/>           Example: 'You have to be careful with humor because sometimes jokes can escalate things when they are interpreted differently.'<br/>           Example: coffee example in Case 2</p>   | <p><i>Salient CT identity</i><br/>           Example: 'Leo lowers the support within the taskforce. The construction team members question his capability and he brings the whole team down.'<br/>           Example: Jonas who wants to protect his men (Case 1)</p> |
| <p><i>Boundary spoiler</i><br/>           Example: 'Roger's behavior ... really influenced the work ... Everything Roger wanted to say to them, needed to go through me. Of course he was not happy with this, but I saw no other way to prevent the situation from escalating.'</p>  | <p><i>Cohesion in MTS</i><br/>           Example: 'Really one team. Good integration and we knew what we could ask of each other.'<br/>           Example: 'The taskforce was not a team. It was them against us.'</p>  |
| <p><i>Possessive pronouns</i><br/>           Examples: '<u>my</u> men', 'where is <u>your</u> office, and where will <u>ours</u> be?', 'then he <u>returns</u> to his <u>own</u> little group', '<u>our</u> tent'</p>   | <p><i>Salient MTS identity</i><br/>           Example: 'We are cleaning up the mess of the previous taskforce.'</p>   |
| <p><i>Team-building importance</i><br/>           Example: 'The preparation was very important because, otherwise, it would have gone very differently with Jane and Matthew. We already had something of a bond so, when people started to be irritated, they tried to deal with it first instead of blurting it out.'</p> | <p><i>Cohesion in CT</i><br/>           Example: logo, sweaters and badge in Case 3<br/>           Example: The MeS part of the construction team wanting to better the situation for their colleagues in Kunduz (Case 1)</p>   |
| <p><i>Pointing fingers</i><br/>           Example: 'The contractor team members just do not communicate! I am going to tell them that because I just cannot work like this!'<br/>           Example: 'I told them, but they are not going to do anything with the information. They only think about their own things.'</p> | <p><i>In-group favoritism</i><br/>           Example: 'The contractor CT members are amateurs!'<br/>           Example: 'We do not act differently when there is a woman around. We just act normal, but those guys next door really change.'</p>                     |

CT = component team; MTS = Multiteam system.

**Observation protocol.** The scientific literature provides several indicators of identity and intergroup behavior. In this regard, examples (e.g. quotes, events) were sought of the depersonalization of other teams, feelings of in-group superiority and cohesion, emotional contagion, polarization, deprecating jokes, different levels of trust, and differences in communication, and reciprocity in and between teams (see Table 3).

**Validity and reliability.** The presence of the lead researcher and/or contact opportunities before and during the deployment enabled the setting to be sampled at different times and allowed personal contact with every MTS member. This steady presence reduced the likelihood of researcher reactivity during observations. Notes were taken to avoid selective recall. To prevent the lead researcher's frame of reference having an influence, respondents were asked how they interpreted events and how they felt.



### *Data collection methods: Diaries*

The research team had access to two private diaries. A member of the contractor team (Simon) in the second case study kept a diary. When the lead researcher found this out in the post-deployment interview, she asked whether she could read it. As the diary was so rich in information, the lead researcher then asked the MTS members of the third case study whether someone would be willing to keep a diary. The second-in-command (John) volunteered. The first diary contained many emotional entries (e.g. 'Everyone is surviving in their own bubble; we do not talk. Not during breakfast, not during lunch, not during dinner. I feel emotionally drained'), whereas the second diary described events in a more factual way.

### *Data collection methods: Questionnaire*

**Structure.** A questionnaire was used to quantify identity strength. The questionnaire consisted of an introduction, explanation of the differences between the component team and MTS levels, and two variants of the Organizational Identity Scale (Ashforth and Mael, 1989): a component team level version (e.g. 'When someone criticizes my team it feels like a personal insult') and an MTS level version ('When someone criticizes the MTS it feels like a personal insult'). A 'translate forward – translate back' method was used to translate the original scale into Dutch. The scale consists of six questions to be answered on a five-point Likert scale (1 = 'strongly disagree', 5 = 'strongly agree') – the higher the score, the more someone identifies with that identity category. Cronbach's alphas were calculated to assess the reliability of the scales (see Appendix A, available online as supplementary material).

**Sampling strategy.** Given the situation, the research adopted a pragmatic approach when it came to the sampling strategy. Paper-based questionnaires were used to increase the response rate as military personnel do not work with computers on a daily basis. Whenever possible, the lead researcher tried to hand out the questionnaires to everyone at the same time. However, when she was not present while the questionnaire was being handed out (e.g. in Afghanistan), information was sought about the circumstances under which the questionnaire was completed in order to assess the quality of the measurements. The time between the three measurements for each case varied somewhat, for reasons such as the priorities of the MTS commander during a deployment or holidays. In all three cases, the first assessment took place as close to the departure date as possible, the second one around one-third of the way through the deployment, and the final one once two-thirds of the deployment had been completed.

**Level of analysis.** The subject of this study is what takes place in the component teams and in the MTSs. However, the unit of measurement and analysis is the individual. It is not possible to aggregate means measured on the individual level to a group level mean during a later analysis (James, 1982: 223). However, it is possible to generate group-level scores by aggregating during the data collection phase using compositional models. 'Compositional models specify the functional relationship among phenomena or

constructs at different levels of analysis, that reference essentially to the same content but that are qualitatively different at different levels' (Chan, 1998: 234). Accordingly, a referent-shift consensus model was used in this study. A shift in the referent (i.e. the level of the construct) prior to a consensus assessment permits aggregation of the individuals' collective perceptions to provide the value of the higher-level construct (Chan, 1998). In other words, the central constructs in the questions are directed at the component team and the MTS levels rather than at the individual level. That is, rather than 'I trust ...', the questions are formulated as 'My team trusts ...' (component team level) and 'Within the MTS, we trust ...' (MTS level).

*Validity and reliability.* To decrease the likelihood of social desirability in the answers, the lead researcher emphasized that the names of the participants would be replaced by non-attributable numbers when the data were entered into the computer. Moreover, the respondents were asked to return the questionnaire in a sealed envelope bearing the logo of the university and stamped 'confidential'.

### *Data analysis method*

*Within-case analyses.* Codes were derived from two sources: terms or constructs that repeatedly appeared in the data, and constructs derived from theory (see Table 3). All the observation notes and transcriptions were coded, and the coded data were assembled in extensive Excel matrices for each case.

The quantitative data were analyzed using SPSS. Given the small size of each MTS, it was only possible to conduct modest statistical analyses such as paired samples *t*-tests and Pearson-*r* correlations.

*Cross-case analyses.* Eisenhardt (1989) proposes three strategies for conducting cross-case analyses. The first strategy is to '... select categories or dimensions, and then to look for within-group similarities coupled with intergroup differences. Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions' (Eisenhardt, 1989: 540). The second strategy is to '... select pairs of cases and then to list the similarities and differences between each pair' (Eisenhardt, 1989: 540). Finally, the third strategy is to '... divide the data by data source' (Eisenhardt, 1989: 541). All three strategies were applied and, further, the results of the within-case analyses were extensively discussed within the research team and formed input for the cross-case analyses.

*Validity and reliability.* The reliability of the study has been increased by developing extensive storylines. Unfortunately, these amount to around 9000 words per case and, therefore, cannot be included in a journal article. However, by allocating considerable space to the within-case and cross-case analyses in the annexes, we have attempted to provide sufficient case evidence for readers to assess for themselves the validity of the results and conclusions. The research team extensively discussed the case data during the analysis phase, and this should have increased the reliability of the analyses.

## Results

The key question in this article is: ‘To what extent do salient component team identities lead to MTS intergroup behavior, and what other variables influence this process?’ The data were first analyzed for each case, and then across the cases. Given the considerable number of words necessary to tell the full story of each case, one detailed storyline is provided in Appendix B (available online as supplementary material). The results of the cross-case analyses (see Appendix A, Appendix C [available online as supplementary material], and Table 4) show how a significant difference between the mean component team and the mean MTS identity strengths coincides with qualitative signs of MTS intergroup behavior. Furthermore, the results point to several situational variables that influence MTS intergroup behavior. The analysis results lead to four propositions.

### *Presence of MTS intergroup behavior*

*Proposition 1: MTSs are vulnerable to MTS intergroup behavior.* The storylines of the first and second cases develop in a similar manner. Both MTSs are confronted with problems at the start of the deployment. Subsequently, MTS members turn to members of their own component team to vent their irritations, increasing both component team and MTS identity salience. Both the qualitative and quantitative data show an increase in component team identity salience and MTS intergroup behavior (see Table 5 and detailed example below). The storyline of the third case develops differently. Even though the MTS in the third case is confronted with similar problems at the start of the deployment as the other two MTSs, the MTS members do not turn to their own component teams to vent their frustrations. Instead, they try to solve the problems together. There are also no signs of salient component team identity or MTS intergroup behavior; on the contrary, there are signs of a salient MTS identity.

*Detailed example from Case 2.* Just a few days into the deployment, the three teams are living completely separate lives, they never share a meal, nor do they greet each other. Every day the atmosphere grows more tense. ‘During the working day everyone sits in their own bubble. There is no trust and no cohesion. This makes working together difficult.’ The meetings each evening are especially tense. In these meetings, Jamie and Bratt report about their day and, when they do, both the contractor team and Chris have numerous comments and questions. Jamie and Bratt feel like defendants in a courtroom. The only one who tries to lighten up the meetings with jokes is Olof. He does not hold grudges against any of the other two teams as there is less interdependence between his team and the other two. Jamie and Bratt feel the contractor team ignores their suggestions, and does not make use of their expertise: ‘Simon still did not ask me for input for the roof. I could have told him ten solutions already’. Subsequently, the two men become increasingly reluctant to share their knowledge, discuss projects, or be proactive for the benefit of the entire taskforce:

Three days ago, they [contractor team] already knew that the roof needed to be moved. I knew that we had to move everything but, this time, I made the conscious choice not to say anything. We were 100% ready: we had the trucks, crane, and the people. We could have lifted the roof in a second.

**Table 4.** Results of the cross-case analyses.

|  | Case 1  |   |   | Case 2  |  |  | Case 3   |  |  |
|--|---|---|---|---|--|--|--|--|--|
|  | t-1 to t-2*   | t-2 to t-3  | t-1 to t-2  | t-1 to t-2  | t-2 to t-3   | t-1 to t-2   | t-1 to t-2   | t-2 to t-3   |  |
| <i>Signs of MTS intergroup behavior?</i> | Yes, apparent in the storyline<br>Significant difference between mean CT and MTS identities   | Yes, apparent in the storyline<br>Significant difference between mean CT and MTS identities   | Yes, apparent in the storyline<br>Significant difference between mean CT and MTS identities   | Yes, apparent in the storyline<br>Significant difference between mean CT and MTS identities   | No, not apparent in the storyline<br>No significant difference between mean CT and MTS identities                            | No, not apparent in the storyline<br>No significant difference between mean CT and MTS identities                            | No, not apparent in the storyline<br>No significant difference between mean CT and MTS identities                            | No, not apparent in the storyline<br>No significant difference between mean CT and MTS identities                            |  |
| <i>Important situational variables</i>   | No work; Problems with leader; conflicts about roles, phones, cars, and housing; tensions; presence of a boundary spoiler; no inter-team contact; distrust. | Even more tension; more conflicts; no communication; change in leadership; presence of a boundary spoiler; no inter-team contact; distrust. | No work; conflicts in contractor team; conflicts between teams about content-related topics; presence of a boundary spoiler; no inter-team contact; tensions. | No work; conflicts in contractor team; conflicts between teams about content-related topics; presence of a boundary spoiler; no inter-team contact; tensions. | Interpersonal contact increases; fewer conflicts between the teams; more conflicts in the teams; aversion to the MTS leader. | Interpersonal contact increases; fewer conflicts between the teams; more conflicts in the teams; aversion to the MTS leader. | Interpersonal contact increases; fewer conflicts between the teams; more conflicts in the teams; aversion to the MTS leader. | Interpersonal contact increases; fewer conflicts between the teams; more conflicts in the teams; aversion to the MTS leader. |  |

CT = component team; MTS = Multiteam system; \*t-1 = pre-deployment; t-2 = around 1/3 of the deployment; t-3 = around 2/3 of the deployment.

**Table 5.** Illustrative quotes for Proposition 1.

|        |   |
|--------|---|
| Case 1 | <p>'How dare THEY!', 'The people there act as if they are God almighty himself.' Before he leaves Afghanistan, Roger tells Max: '[you] must really attend the adaptation program [a post-deployment rehabilitation program], because otherwise the construction team will make the contractor team the bad guy in the whole story, you need to go to 'protect' the contractor team.'</p> <p>Two-thirds through the deployment, a critical incident took place that pushed the already tense relationship between the contractor and the construction teams over the edge: Jim and Roger fell out in front of a visiting major. To prevent further escalation, Max decides to stop all communication between the teams. The formalized communication lines banned face-to-face communication and coordination, decreasing MTS effectiveness yet further.</p> <p>Component team identity strength was significantly higher than MTS identity strength (see Appendix A, available online as supplementary material) throughout the deployment.</p>   |
| Case 2 | <p>One day, a construction team member pokes his head into the contractor's office and asks whether there is a pot of fresh coffee. Leo says: 'No, because you guys drink all the coffee, but never put on a new pot. You scum.' The construction team member tells his teammates what has just happened and comments: 'I already have trouble just entering their office, and then this happens. We always put on a new pot of coffee! They really suck!'</p> <p>When Jamie told the construction men the time and location for the group photo, one of the men replies: 'Without the contractor team right, only with our own group?' During the photo event itself, a construction team member shouted out: 'Now, one without the contractor team.' On the photo, the Candl team are grouped together, as are the construction team members, whereas the contractor team members are spread around.</p> <p>'There is no 'we' in the engineering taskforce' and 'The taskforce was not a team. It was them against us.' 'THEY should have prepared their work better. Now we [the construction engineers] are working on the roof, while we see them smoking cigarettes', 'They just cover for each other, like 'we of the contractor office, we do not make mistakes.'</p> <p>Component team identity strength is significantly higher than MTS identity strength (see Appendix A, available online as supplementary material) at the start of the deployment.</p> |
| Case 3 | <p>The MTS members perceived the MTS as one large team. 'Really taskforce XX. For example, John is not seen as someone from the contractors' office, no he is the second-in-command of the taskforce. So yeah, during deployment we [as in: we the military] do not perceive people as being from another office.' 'There were no islands. Actually, it was one big island and that was us together. That was the power'. The MTS made its own badge and jersey.</p> <p>'The taskforce members really help each other. It does not matter whether you are from the construction or the contractor team; 'There were no boundaries. You could just ask anyone.'</p> <p>There is no significant difference between component team identity strength and MTS identity strength (see Appendix A, available online as supplementary material).</p>   |

Candl = Communication and information team; MTS = Multiteam system.

As such, the data show that MTSs are sensitive to developing MTS intergroup behavior. Salient component team identities generate MTS intergroup behavior, triggering less inter-team trust, less communication and more conflicts. These consequences increase component identity salience, amplifying the distance between the groups, causing even more problems. A downward spiral that is difficult to break sets in. In the first case, the MTS leader froze all contact between the component teams to prevent further negative events occurring. In the second case, the negative effects of intergroup behavior lessened over time, with the contractor team identity weakening.

### *Influential contextual variables*

*Proposition 2: Boundary spoilers act as a catalyst for MTS intergroup behavior.* In both the first and second cases, the construction team members are positive about almost all of the individual contractor team members, but their overall opinion of the contractor team is negative. It seems that the behavior of one specific contractor team member reinforces pre-existing stereotypes and distrust, generating a negative attitude towards the contractor team as a whole. Hence, this contractor team member amplifies existing team boundaries, in turn catalyzing MTS intergroup behavior (see Table 6 and detailed example).

*Detailed example from Case 1.* The relationship between Roger and the construction team was troubled from the start because he often spoke out on disciplinary issues. Roger's interference with the construction team increased further when he took on (or was given – the opinions differ) a new role in which he becomes responsible for all non-work-related issues of the Dutch armed forces in Kunduz. Hardly anyone in the taskforce agrees with Roger's new role: 'Roger acts as if he is a company sergeant-major, but there is no acceptance of him in that role.' Over time, the tension rises. Roger is seen, by members of his own team as well as by members of the construction team, as the cause of many problems between the two teams:

Roger's behavior was something that unfolded on the sidelines of our main assignment; however, it really influenced the work. I had to work non-stop on personal issues because of all the internal struggles. I tried to talk with the men every time I saw them, always isolate one and start a conversation, try to explain Roger's behavior.

Roger's behavior determined the construction team's perception of the contractor team: 'The contractor team stinks. It does not matter whether there are good guys in that team, it sucks as a whole – because of Roger.'

When Roger leaves Afghanistan 3 weeks before the rest of the taskforce, much of the tension between the two teams is released. Near the end of the deployment, Jim even states that the contractor and construction team cooperate very well.

Davison and Hollenbeck (2012: 323) introduced the term *boundary spanners* to indicate people who act across formal and informal boundaries and whose behavior bridges the gaps between groups. We propose introducing the term *boundary spoiler* for people who cause the opposite effect: those who harm the relationship between different groups

**Table 6.** Illustrative quotes for Proposition 2.

|        |   |
|--------|---|
| Case 1 | <p>'Roger's presence has really influenced the atmosphere and dynamic between the groups.' Jim appreciates Aaron more when he hears that Aaron does not like Roger either. Jonas avoids speaking with the entire contractor component team because of the problems he has with Roger.</p> <p>'Just because you guys do not like Roger, does not mean that we all have to suffer.'</p> <p>'I told Roger not to interfere with the construction team anymore. Everything Roger wants to say to them should go through me ... I saw no other way to prevent the situation escalating.'</p>   |
| Case 2 | <p>Leo's mistakes led the construction team to doubt the professionalism of the entire contractor team: 'We have the feeling that they have no clue what they are doing. They are all so focused on their own little island.'</p> <p>'Leo's mistakes led to a loss of trust in our expertise as the contractor' and 'This is already the fourth time that Leo has been told that his performance is very weak. He lowers the support within the taskforce. The construction team members question his capability and he brings the whole team down.'</p>  |
| Case 3 | <p>At one point, Leo wants to help some of construction men and asks whether he can operate the shovel. Leo's good intentions lead to the following reaction: 'Look, now he is operating the shovel! Really, you got to be kidding me, this is not a kindergarten!'</p> <p>When John talks to the soldiers directly instead of going through their group commander it is not perceived as a problem.</p> <p>'Sometimes he would ask why we would work in a certain way, and then he would give some other ideas. He gave them directly to the men, which I liked – otherwise I would have to tell them, waste of time to use the chain of command. It is not a problem to do so, if you have a good working relationship. Then you live and let live. It is not like he is standing there like an angry schoolteacher telling us off.'</p> <p>The problems between Ryan and Seth within the construction team could have created tensions between the contractor and the construction team. However, they did not, owing to the strong MTS identity – the MTS members actually turned away from their own Seth, because they felt his behavior brought shame to the MTS: 'He is ruining everything we have been trying to build up here.'</p> |

MTS = Multistream system.

and create a gap. As such, boundary spoilers reinforce pre-existing stereotypes and distrust. As the gap between groups widens, there will be greater miscommunication and conflict, boosting component team identity salience and MTS intergroup behavior.

*Proposition 3: An effective team-building period is required to prevent MTS intergroup behavior.* All three cases highlight the relationship between inter-team contact and MTS intergroup behavior. A team-building period creates opportunities for interpersonal contact, enabling MTS members to see other component team members as individuals rather than members of an outgroup. In all three cases, misinterpretations of behavior and conflicts decreased once MTS members got to know each other better. In the first case, there was no team-building period nor inter-team contact before the deployment. The deployment itself was plagued with misinterpreted behavior, conflicts and MTS intergroup behavior. In the second case, there was very little inter-team contact prior to the deployment and, as in the first case, the deployment was marked by misinterpreted jokes, conflicts and MTS intergroup behavior. A change had occurred by two-thirds of the way through the deployment. By then, the amount of interpersonal contact between members of the different component teams had increased, and there was less MTS intergroup behavior. In the third case, there was a lot of inter-team contact prior to the deployment and no MTS intergroup behavior during the deployment (see Table 7 and detailed example).

*Detailed example from Case 3.* In the third case, there was considerable inter-team contact during both the pre-deployment phase and the actual deployment. Pete and John agree that team-building is crucial for success. Thus, from the first day of its formation, the taskforce meets daily during rollcall. 'The morning rollcalls really made a difference. You would not say that it matters, yet it subconsciously creates team spirit and fellowship.' The taskforce also underwent a four-day exercise specifically designed for them. In this, the taskforce members march, run and sleep in the rain for two days. On the third day, the taskforce members confront personal fears, followed by a nice dinner and drinks. On the last day, the taskforce visits a military facility specializing in reflecting on team processes. The executive staff of the taskforce spend an additional day discussing their roles. Throughout the deployment, the amount of inter-team contact remained high. The entire taskforce lived in one tent: 'The cool thing about a tent is that nobody can get very isolated, and there are no groups.' The taskforce meets every day for breakfast, morning coffee, dinner and relaxing activities in the evening. Knowing each other leaves less space for misinterpretation and conflicts: 'We were used to each other, which helps, because you know how people will react.'

Work elsewhere on teams has shown that interpersonal contact shapes a collective identity (Wright, 2009: 263), and that a collective identity reduces prejudice, stereotyping and intergroup bias (Simon, 2009: 224). MTS scholars hypothesize that MTSs are prone to conflicts (Hinsz and Betts, 2012: 294). The cases provide evidence in line with these earlier findings and in support of Hinsz and Betts' hypothesis: in all three taskforces, less inter-team contact coincides with more conflict and more MTS intergroup behavior. A team-building period is more important in MTSs than in teams because MTSs are extra prone to intergroup behavior as MTS members have the option to retreat into their own component team. An effective MTS team-building period should at least



**Table 7.** Illustrative quotes for Proposition 3.

|        |   |
|--------|---|
| Case 1 | <p>'We missed a team building exercise, in a team-building session we would have got to know each other, created a team, and team spirit' and 'We could have really resolved several issues in the MTS, however we did not know each other, and we could not get to know each other because Jonas was stationed in Mazar-e Sjarif (MeS). That is why a team-building is so important!'</p> <p>Because there is hardly any inter-team contact (e.g. in Appendix D, available online as supplementary material), pre-existing ideas influence behavior: 'I really had a preconceived opinion about Jonas. I thought he was a bully, he liked to start fights, and all kinds of stories went around about him. But when you get to know someone, and sit down and talk to him, you learn that he is really a sweet guy, he just wanted to protect his boss.'</p> <p>Things are different in MeS when Frank, Simon, Brat and three other construction team members go there for a week to install solar power systems. In this week, there is much contact: 'Everything is going well. The work is going faster than I expected. The communication lines are shorter, less coordination, and you know what everyone is doing' and 'It was very different in MeS – Frank and Simon were now helping. They were also very social all of a sudden, like they were our best friends.'</p> |
| Case 2 | <p>Over time, taskforce members started to build interpersonal relations: 'I had a conversation with Simon yesterday evening. The funny thing is that we are actually pretty similar and think about things in the same way. However, we deal with it differently. Actually, he is a sweet man once you get to know him.'</p> <p>An invisible barrier between the construction and contractor teams prevent them having contact: 'I would rather not enter that office [contractor office]' and 'I often felt a barrier to asking something.' The barrier is less present between the contractor and the Candl teams: Olof never knocks when he enters the contractor's office, whereas the construction team members always knock and wait until they are invited to enter.</p> <p>'You have to be careful with humor, because sometimes jokes can escalate things when they are misinterpreted.' For example, when Leo tells Simon that actions are being taken affecting Simon's work: 'If you want to see it before ...', Simon reacts with a loud 'NO.' This was meant as a joke but it angered Leo, who then walked out of the office.</p>  |
| Case 3 | <p>Although the taskforce members were initially cross with Pete for coming up with such a strenuous team-building program, they do acknowledge its positive effects: 'We really got to know each other. The positive and the less positive sides'; 'Really one team'; and 'In the preparation period you get to know each other better. This already creates fellowship and a better atmosphere.'</p> <p>During the team-building dinner, Bart left without giving any explanation. Nobody knew where he had gone but he returned within the hour. This is the first time the taskforce is confronted with Bart's atypical behavior. One evening in Afghanistan, a taskforce member joins Bart while he is watching television and Bart immediately gets up and leaves. 'That is just who he is.'</p>  |

Candl = Communication and information team; MTS = Multiteam system.

address 'assumed' differences between the component teams, should strengthen common goals, and allow sufficient interpersonal contact to prevent competition between the existing component teams.

*Proposition 4: Effective MTS leadership is pivotal to preventing MTS intergroup behavior.* The case data highlight the importance of MTS leaders being perceived as neutral. The effective MTS leaders in our cases cross component team boundaries, whereas the ineffective MTS leaders unknowingly instigate MTS intergroup behavior (see Table 8 and detailed examples).

*Detailed example from Case 2.* Both the construction and contractor team are unhappy with Chris as the MTS leader. Chris gossips about the construction team with the contractor team, and vice versa. Moreover, he is very concerned with his own status and career, rather than what is best for the taskforce. Chris's behavior and choices generate animosity between the component teams. Take, for example, the situation with Leo. The situation in the contractor team is so tense that Leo, Simon and Frank agree it would be better if Leo returns to the Netherlands once the concrete canvas project is complete, as this would relieve the stress level tremendously. However, Chris does not allow it: 'I could send Leo home after the concrete canvas is done, but I have my pride. No one is going to be sent home during my watch.' Another example occurs when Jamie and Bratt suggest an evaluation moment midway through the deployment. Chris asks: 'Why? If they have complaints about me they should come to me.' Eventually Chris agrees to the evaluation, but he does not invite the contractor team members: 'Chris did not want the contractor team to join. He is probably scared of what they will say.' A common evaluation could have created a moment for the taskforce members to open up to each other and talk through their common annoyances. As the deployment continued, MTS members started to bond over their shared annoyances with Chris.

*Detailed example from Case 3.* After some hesitation, Pete decides Seth needs to return to the Netherlands. Pete's reluctance to send Seth home has to do with the order he received before the deployment: if something goes wrong keep it within the taskforce and fix it. Yet, Pete knows it is best for the taskforce if Seth leaves: 'If we let him stay, it will be the end of the taskforce ... I do not want people to have psychological problems, because of what happened in this taskforce.' So, one morning Pete and John notify Seth that he is being sent home. Seth is furious and shocked. The taskforce members react in various ways: 'It could not go on like it has been'; and 'It really is too bad. You come as a group and you want to leave as a group.' Seth's absence had an immediate positive impact: 'It is like a light switch being flipped on. People were laughing again. Getting coffee for each other. There was music playing'; 'The effect was astonishing. After Seth left the atmosphere sky-rocketed'; and 'Within a day of him leaving, the atmosphere was good again.'

Hence, Pete makes a difficult decision that could potentially harm his career for the good of the whole team, whereas Chris chooses the option that is best for him personally.

**Table 8.** Illustrative quotes for Proposition 4.

|        |   |
|--------|---|
| Case 1 | <p>Both the contractor and the construction teams are unhappy with Zack's leadership capabilities. Although Zack and Jim agreed they would cooperate closely, Zack does not involve Jim in any decision-making process. After Zack's resignation, Max takes over. Max leads the MTS differently. 'From the moment Max and Aaron were a duo, it really went well.' Jonas even perceives Max as neutral at one point.</p> <p>Max acts as a boundary spanner: 'Roger's behavior was something that unfolded on the sidelines of our main assignment; however, it really influenced the work. I had to work non-stop on personal issues because of all the internal struggles. I tried to talk with the men every time I saw them, always isolate one and start a conversation, try to explain Roger's behavior.'</p>   |
| Case 2 | <p>'Chris is going to be the taskforce leader, yet he is also the commander of the construction team. Will he manage to stay independent? Because he has to be the taskforce commander.' At the start, Chris chose to focus on the contractor team and not on the construction and Candl teams. 'Over time I did lose sight of Jamie and Bratt, because I was so focused on the contractor team.' 'Chris is the skivvy of the contractor team.'</p> <p>Chris shows no role model behavior. For example, when a contractor team member warns Chris that he should fix a date for the group photo quickly because the Candl team is almost leaving, Chris's reaction is: 'I do not care; I never really understood why they were placed in this taskforce anyway.'</p>  |
| Case 3 | <p>'Chris is one of the reasons why things went the way they did with Leo. He could have de-escalated the situation. He should have acted differently.'</p> <p>'The standard answer if someone asked 'where is the lieutenant' was 'he is probably working with the men outside.' If your men think about you in this way they will go the extra mile for you. It makes it possible for a leader to make unpopular decisions.'</p> <p>Boundary spanning behavior: as Shaun is part of both the executive staff and part of the men, he hears what the men are thinking and he is able to explain the reasoning behind staff decisions. 'After the announcement that Seth was going home, many people started to gossip about how 'Every night Seth was the scapegoat in the daily meetings.' I tried to counter these thoughts, because I was there in the meetings and that did not happen.'</p> |

Candl = Communication and information team; MTS = Multitream system.

The topic of MTS leadership has received significant attention in MTS research (e.g. DeChurch and Marks, 2006; Murase et al., 2014). Theoretical work on intergroup leadership by Hogg et al. (2012) suggests that optimizing the performance of multiple groups requires leadership that effectively connects disparate groups, diverts self-interest and intergroup competition and transforms tendencies towards insularity into intergroup collaboration and coordination. The case data underline such hypotheses and the work of fellow MTS researchers: an effective MTS leader needs to enable integration across team boundaries (DeChurch and Marks, 2006) and act as a boundary spanner (Carter and DeChurch, 2014: 485; Davison and Hollenbeck, 2012: 349).

## Discussion and conclusions

The aim of this study is to help understanding of the extent to which salient component team identities lead to MTS intergroup behavior and what other variables influence this process. The study contributes to the field of MTS research in three ways. First, the study provides empirical evidence of the presence of MTS intergroup behavior: MTSs are indeed vulnerable to intergroup behavior. A small spark (such as a misunderstood joke) is enough to prompt MTS intergroup behavior. Moreover, when intergroup behavior is present in an MTS, it creates a rapid downward spiral that can severely limit the effectiveness of an MTS. As such, MTS intergroup behavior posts a significant threat to MTS effectiveness.

Second, the results indicate that the way in which MTS intergroup behavior develops is influenced by (i) the presence of boundary spoilers, (ii) a well-designed team-building period, and (iii) an effective MTS leader. The ways these contextual variables influence MTS intergroup behavior in our case studies are similar to earlier findings in both team and MTS literature (e.g. Carter and DeChurch, 2014). Hence, we would stress that practitioners should design in a team-building period that addresses 'assumed' differences between component teams, strengthens the common goal, and allows sufficient interpersonal contact to prevent competition between the existing component teams. Additionally, the appointed MTS leader should be perceived as neutral by all the component teams, should enable integration across team boundaries, and act as a boundary spanner. Finally, this person should not be afraid to rid the MTS of boundary spoilers.

The final contribution relates to the applicability of existing theories in an MTS setting. MTS researchers have argued that it is impossible to apply existing knowledge on teams and groups to an MTS setting because of crucial differences between teams and MTSs (Zaccaro et al., 2012: 4). MTSs indeed differ in many ways from teams but, despite these differences, our study provides evidence that MTS intergroup behavior, and related influential contextual variables, develop quite similarly. Given that the MTS research field is still maturing, this suggests that there may be value in drawing on existing knowledge on teams and extending it to the MTS context.

## Limitations

All research strategies have drawbacks. The first limitation is the situational character of cases. For example, in this study, the three MTSs are relatively small, and it might be that MTS intergroup behavior develops differently in larger MTSs. Moreover, a military

setting is very specific, although the context of these cases is less ‘military’ than one might assume. First, in a military construction setting, military hierarchy is less important than elsewhere as knowledge is perceived as more important than rank. Second, the taskforce members are not confronted with violence during their deployment and, lastly, the military compound feels more like a small village than a warzone. Nevertheless, working together in such close proximity every day for several weeks does generate stress that might have had a pressure-cooker effect on MTS intergroup behavior.

The second limitation is the influence the presence of the first researcher might have had on the natural process. Although she tried to limit any effect, it is possible that her presence did influence the processes under study. In the second case, for example, the first researcher became Leo’s confidant after he had a conflict with the rest of his team. If she had not been present, Leo might have turned to someone in the construction team, which could have changed events.

### **Future research**

Future research could usefully focus on further unravelling when and how MTS intergroup behavior develops in a variety of MTSs and in different settings. Here, systematic research linked to the situational variables of MTSs in a variety of settings could help refine our propositions. Such research needs to be multidisciplinary as this would help incorporate valuable work from other fields (e.g. the ecosystem approach, geographically distributed teams, boundary spanning). Similarly, research tools from other fields should be tested, as these might prove very beneficial in MTS research (e.g. social network analysis). Finally, the relationship between MTS intergroup behavior and MTS teamwork should be thoroughly examined, as this knowledge is crucial in ensuring MTS effectiveness. This knowledge will deepen our understanding of how MTS intergroup behavior leads to MTS failure, as well as on how MTS leaders should act to steer MTSs towards success.

Although the three case studies reported here do not reveal the full complexity of MTS intergroup behavior, they do provide well-grounded empirical evidence for the four propositions put forward in this article on MTS intergroup behavior. Our hope is that this research can form a fruitful basis for future research on MTS intergroup behavior.

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