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The role of identity in cross-organizational engineering projects: the case of Dutch military engineers in Mazar-e Sjarif Afghanistan

Julia Wijnmaalen¹, Geert Dewulf², Hans Voordijk³

Abstract

There is a rise in the use of global and cross-organizational teams in engineering projects, consequently issues such as team coherence and commitment have gained growing attention in engineering literature and practice (Davies & Hobday, 2005). Creating effective cooperation in project teams which consist of individuals from various countries, organizations and with various expertises is difficult. Apparently, merely placing people together does not create an effective team (Salas, Burke & Cannon-Bowers, 2000; Ruiz Ulloa & Adams, 2004) as both organizations and the individuals working in these organizations have their own subset of goals, norms, jargon, modus of operandi and culture. Research in social and organizational psychology and management shows that identification with the own team or organization can strongly influence the cooperation processes between teams, through in-group versus out-group feelings (De Drue & van Vianen, 2001; Williams, 2001; Chatman et al., 1998). However, there is still little insight in how organization identity changes within international and cross-organizational military engineering teams. For the purpose of gaining more insight in this issue, we undertook a longitudinal exploratory case study of individuals who were part of a cross-organizational military engineering projects which was deployed to Mazar-e Sjarif (MeS) in Afghanistan. The case study showed a change in the strength of various identities of these individuals during the project. Additionally a workshop was organized to explore possible factors which affect changes in identity strength. After analyzing the results of this workshop six variables were indicated, these are: having negative feelings, knowledge of one another, working towards the same goal, duration of a mission, being ‘stuck’ in the same situation and whether or not one feels a personal connection with the people in the group.

Key words: identity, cross-organizational project teams, military engineers

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INTRODUCTION

Engineering projects are increasingly executed by international and cross-organizational project teams. Consequently, issues such as team coherence and commitment have gained growing attention in engineering literature and practice (Davies & Hobday 2005). Creating effective cooperation in project teams which consist of individuals from various countries, organizations and with various expertises is difficult. Apparently, merely placing people together does not create an effective team (Salas, Burke & Cannon-Bowers 2000; Ruiz Ulloa & Adams, 2004) as both organizations and the individuals working in these organizations have their own subset of goals, norms, jargon, modus of operandi, culture, identity and might even have different nationalities. The focus of this paper is on the issue of identity in such cross-organizational engineering project teams. In this paper we use the definition of teams from Salas et al. (1992) which is most used in social and organizational psychology: “*Team members share common tasks goals, are interdependent for achieving these goals, engage in ongoing information exchange and response coordination, and are differentiated in terms of role and responsibilities*”.

Several authors refer to the lack of a common (organizational) identity as a possible reason for disappointing team performance (Campion, Medsker & Higgs 1993; Griffith & Vaitkus 1999; Driskell, Johnston & Salas 1999; Marks et al. 2002; Van Vught & Hart 2004; Van den Vegt & Bunderson 2005). Research in social and organizational psychology and management shows that identification with the own team or organization can strongly influence the cooperation processes between teams through in-group versus out-group feelings (Dedrué & van Vianen 2001; Williams 2001; Chatman et al. 1998).

There is still little insight in how and why identity changes within the specific setting of cross-organizational engineering project teams working in extreme circumstances. This specific setting was chosen for the reason that more and more engineering project take place in such complex situations. There has been a large increase in the number of civil engineering companies who are operating in conflict zones. For the purpose of gaining more insight in the issue of identity changes in cross-organizational engineering project teams in extreme conditions, we undertook a longitudinal exploratory case study of several individuals working in a military engineering team which was deployed for several months to Mazar-e Sjarif (MeS) in Afghanistan. A military engineering team was used as a case since the identity categories tend to be very clear. The military is known for its clear structure; the organization is divided into various groups and subgroups which are indicated by various insignia's and uniforms, so it is very clear which person belongs to which group. Consequently it is easier to investigate the effect of identity in such real life groups. Additionally, the military engineers operate in complex situations and extreme conditions. This study is the first exploration of the role of identity in this specific engineering setting. The central question this paper tries to answer is

‘to what extent and how does the identity strength of individuals, who are part of a cross-organizational military engineering team, change in a military mission?’

This study is aimed at:

- Generating insight into the alterations of group identities in cross-organizational military engineering project team
- Developing an outline of/a program for further research regarding the influence of group identity on the cooperation processes in cross-organizational military engineering teams working in extreme circumstances

The outline of the paper is as follows: first the theoretical background of all the constructs which are relevant to the research question is given. Afterwards the used method and measures are discussed, followed by the results, conclusion and discussion.

THEORETICAL BACKGROUND

The influence of identity on cooperation processes between various groups has been discussed widely in literature (e.g. Campion, Medsker & Higgs 1993; Griffith & Vaitkus 1999; Driskell, Johnston & Salas 1999; Marks et al. 2002; Van Vught & Hart 2004; Van den Vegt & Bunderson 2005). Inter-team processes, and consequently inter-team cooperation, suffer when individuals identify strongly with their own group, as it creates hostility towards the other teams with which they have to cooperate (Lichtenstein, et al. 1997). We agree with the reasoning of Guzzo and Dickson (1996) and Ilgen (1999) that the term group and team can be used interchangeably as in much of the literature the line between the two concepts is blurred, so the literature based on small groups is useable for the study of teams. To be able to study the development of group identities we will first elaborate on the concept of group identity, secondly how identity influences cooperation and thirdly on how contextual factors may impact this process.

Group Identity

An important basis for studying group identity is the Social Identity Theory (SIT) of Henri Tajfel (1982). Tajfel (1982) defines the 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'* (p. 2, emphasis in the original). Thus, a social identity is formed by an individual's perception of belonging to a certain group or category (Tajfel & Turner 1985 p.16). Individuals perceive themselves as an actual or symbolic member of a group and feel/believe that their fate is psychologically intertwined with the fate of that group; they share a common destiny and consequently share in failures and successes (Earley & Mosakowski 2000; Mael & Ashforth 1992; Turner 1982).

An organization is a group as it creates social boundaries (Goete, Huffman & Meier 2006; Hogg & Terry 2000). Every organization has its own culture, characteristics, jargon and identity (Shenkar & Zeira 1990). Organizational identity plays a very important role for both an organization and its employees (Albert et al. 2000; Van Dick et al., 2004; van Knippenberg

& van Schie 2000), as it is a predictor of retention, organizational citizenship behaviors, cooperation, the amount of effort that employees show (Johnson, et al. 2006) and it increases collectivistic work motivation (Elron, Shamir & Ben-Ari 1999). The most influential research regarding organizational identity was by Ashforth and Mael in 1989. Ashforth and Mael (1989) argued that organizational identification is a special form of social identification as it answers a large part of the question “Who am I?”. This claim has been supported by other researchers such as Gautam, Van Dick & Wagner (2004), and Van Dick (2001).

Identity and Cooperation

In-/out-group feelings are feelings which are prevalent in individuals when they are part of a group. An individual always has a more positive attitude towards his/her own group (the in-group) than towards other groups (the out-group) (Tajfel 1982). Or as Brewer (2009) states: “*inclusion implies exclusion*” (p.10). The social categorization theory (SCT) by Turner explains the behavioral consequences of social categories or ‘thinking in groups’ and how they influence both intra- and intergroup behavior (Turner, 1982 p.21; Turner et al. 1987; Hogg, Terry & White 1995).

When a group identity is salient, and in-group versus out-group feelings are prevalent, it can influence cooperation in various ways: a process of depersonalization of out-groups starts, prototypes are formed of the own and of other groups (Tajfel & Turner 1985; Ashforth & Mael 1989), feelings of in-group superiority are prevalent, negative stereotyping increases (Shaw & Barret-Power, 1998 p.1313), group cohesion increases, emotional contagion occurs (Kelly & Barsade 2001), collective behavior occurs, group polarization increases, shared norms are created (Hogg, Terry & White 1995; Jetten, Postmes & Mcauliffe 2002; Van Vught & Hart, 2004), less trust and reciprocity (Williams 2001) and less effective (inter-team) communication takes place (Keyton, Ford & Smith 2012, p.178).

The Military Engineering Context

Identity strength and the extent to which individuals identify themselves with various groups is not something static: it is dynamic and responsive (Van Dick 2001; Ellemers, Spears & Doosje 1997; Hogg & Terry 2000; Hogg, Terry & White 1995; Nkomo & Cox 1996; Tajfel 1982; Turner 1982). Individuals have more than one identity (Stryker 1968; Turner 1982, p.18) and these various identities are activated by situational and contextual cues (Brickson 2000; Johnson, et al. 2006; Van Dick 2001) and social situations (Turner 1982 p.20). However, there is still little insight in if, how and why organizational identity changes within cross-organizational military engineering project teams.

In addition to the general complexity of cooperation within cross-organizational engineering teams, military engineering projects have an extra complication: these projects take place in extreme circumstances. As Duel (2010, p.11) stated “*Effective within-team teamwork is a difficult process; let alone working with other teams in a context which is*

characterized by uncertainty, complexness and stress". Additionally, during missions in-group feelings of military units increase (Dechesne, van de Berg & Soeters 2007; Soeters 2008; Winslow 2004). So, contextual factors should not be discarded when investigating the question how identity changes over time and in extreme circumstances.

The influence of contextual factors on real groups and their processes is very complex (Ancona & Caldwell 1992; Salas & Wildman 2008, p.526). Consequently, relations which are found in laboratory studies do not always translate back to the real world (Gladstein 1984; Levine & Moreland 1998, p.419; Salas & Wildman 2008, p.526). A good example is the fact that the effect of in-group bias was stronger in real-life groups, than in laboratory ad hoc groups (Brown 1969, p.510; Mullen, Brown & Smith 1992). Consequently, there is a strong call for more research on groups 'in the wild' (Gladstein 1984; Gersick 1988; Janz, Colquitt & Noe 1997; McGrath, Arrow & Berdahl, 2000; Salas & Wildman 2008, p.526; Salas, Sims & Burke 2005; Salas, Cooke & Rose, 2008). Another reason why contextual factors need to be considered is the fact that these cross-organizational teams consisting of various experts are created as a response to fast changing and complex surroundings (Mathieu, Marks & Zaccaro 2001); such surroundings are the drivers behind the increased need for cross-organizational engineering project teams.

METHOD

Description of the Case

A case study of a Dutch military engineering project team was undertaken. In 2011 the Dutch parliament voted in favor of establishing Police Mentoring Teams (PMTs) in north Afghanistan in order to support the North-Atlantic Treaty Organization (NATO) reconstruction mission in that area. After several exploratory missions in north Afghanistan and talks with various NATO partners the Dutch government came to an agreement with the German armed forces: the German camp in Kunduz would host the new Dutch mission. In support of the PMTs in Kunduz, F16s are needed to secure the safety of both military and police personnel. However, the military base in Kunduz does not have an airstrip, therefore the Dutch Air force was forced to station itself on another military base. This other compound was Mazar-e Sjarif. MeS is an airbase compound which is located approximately 150 kilometers from Kunduz. This compound houses the headquarters of NATO's Regional Command (RC) North and it serves as a transit location to other NATO compounds in Afghanistan. A Dutch engineering taskforce was appointed to ensure that all the necessary facilities would be ready in order for the Dutch air force to be operational on the first of August in 2011. This engineering taskforce did not operate alone; they had to cooperate with the German engineers and with Dutch air force technicians.

MeS is a very large compound in the North of Afghanistan in the Balkh province. The compound is approximately six by four kilometers and houses around 6000 military and civilian personnel from various countries. The compound was founded and is managed by the German armed forces. The Dutch government was promised several small pieces of land

within the compounds' perimeters to house the facilities needed for the air force. The mission of the taskforce was to construct several objects on MeS within a limited amount of time: these construction projects varied in complexity, size and location on the compound. Examples of the projects are: sleeping and working quarters, an airstrip, shelters for the F16s, an operational center, parking places for the cars, walls, and depots for extremely inflammable liquids.

Within this specific engineering team we can distinguish various groups: the Dutch engineers, the Dutch air force technicians and the German engineers. All the three groups need to work together in order to complete the tasks.

- Dutch army engineers:

The engineering taskforce consisted of engineers who were part of two sub-groups: project managers and subcontractors. The project managers were in charge of creating the plans for construction objects in missions. This group of project managers consists mainly of more experienced military personnel; personnel that has conducted construction projects in various missions. The group of the subcontractors (or construction workers) is placed within the same battalion as the project managers. Both groups are divided into six disciplines: civil engineering, building engineering, electric engineering, installation experts and water drill experts. Each of these disciplines brings in specific knowledge when a project is designed and conducted. The total number of individuals who made up the Dutch army engineers group was around 26.

- Dutch air force technicians:

The air force technicians are specialized in communication techniques and they had the task of inserting all the cables which are needed in to the work and sleeping quarters of the air force to assure communication possibilities. The total number of individuals who made up the Dutch air force technician group was around 6.

- German engineers (*das Bauhaus*):

The military camp of MeS is a German camp, so the Germans are the ones setting the rules. Consequently, everything which is built in the perimeters of the camp needs to be checked and approved by the German engineers. The German engineers consisted of military engineers. The total number of individuals who made up the German engineers group was around 20.

Longitudinal Approach

The choice for a longitudinal approach is based on the statement of Doosje, Spears and Ellemers (2002) who argue that group identity cannot be reduced to a stable individual difference variable. They claim that identity is both an independent and a dependent variable.

When social identity is regarded as both an independent and a dependent variable it is possible to explore the temporal development of group identity (Doosje, Spears & Ellemers 2002). And this is needed as many researchers call for more research of social identity as a dynamic process (Doosje, Spears & Ellemers 2002; Van Knippenberg & van Schie 2000; Johnson et al. 2006).

Since it was not possible for the researchers to join the engineering taskforce for safety reasons data regarding identity were retrieved through a questionnaire and the results of the questionnaire were later validated using a workshop.

The Questionnaire

The Dutch military engineers were the focus of this study. The data was collected at three points in time: before, during and after the deployment. The members of the engineering taskforce were approached to fill out a questionnaire three weeks before they left for Afghanistan. At that time both the project managers group (except for two members) and the construction group were waiting to receive their attire, which gave the researcher the opportunity to introduce herself and the research, and to amplify that anonymity was guaranteed. Thirty-one questionnaires were issued at that time, and thirty were returned. So, the response rate was 97,6%. The two members of the project managers team who were not present during the first measurement received the questionnaire later on their desks, both men filled out the questionnaire.

The second measurement was in Afghanistan. The commander of the Dutch engineers group distributed the questionnaire since it was impossible for the researcher to do this directly. Three versions of the questionnaire (in order to prevent common method bias the order of the questions varied in the three versions of the questionnaire) were printed out, and a manual as to how and when the questionnaires should be issued was added and this parcel was send to Afghanistan at the beginning of June 2011. Four weeks later envelopes with twenty-four filled out questionnaires were returned to the researcher. Since the researcher was not able to control the distribution process there is no information about how many questionnaires were distributed (therefore the response rate cannot be reported) and when/how the questionnaires were distributed. Of the twenty-four received questionnaires merely eleven respondents noted their name on the form, so it was only possible to pair the data on time one and time two for those eleven respondents.

The third time the questionnaire was issued, it was distributed to the eleven individuals whose questionnaire was returned from Afghanistan with their name on it. However, three individuals were not willing or able to participate for a third time. So eventually identity strength data was retrieved on the three points in time for eight individuals.

The questionnaire which was issued consisted of questions regarding the extent to which individuals identify with several groups and questions about the background of the participant (e.g. age, tenure) which were used as control variables.

- *Identity measure*

The extent to which people identify themselves with different groups was measured using the organizational identification scale of Mael and Ashforth (1992; see Annex 1). This scale was used to measure component team identity as the feelings which occur during the process of identification are proposed to be the same for an organization as well as for other social groups as nationality, sport club or military section. This scale has been widely tested and found valid and reliable in different research settings and countries. Mael and Ashforth's scale is in English, however, an English scale could have created problems with the respondents, as the level of education is very diverse. Therefore, the scale was translated into Dutch using the translate-translate-back method. The scale consists of six questions of which the answers are measured on a 5-point Likert scale, running from (1) 'strongly disagree' to (5) 'strongly agree'. Thus a high score on this scale is equivalent to strong identity feelings. An example of a question is: 'When someone criticizes the (*name of group*) it feels like a personal insult'.

- *Control variables*

Control variables which are taken into account are age, level of education, tenure in the armed forces, tenure in the own group and the number of previous deployments.

The Workshop

A workshop was set up to validate the results obtained from the survey and also to further explore possible factors that could influence the identity strength. Based on the results of the questionnaire it was possible to depict patterns in the evolution of the group identity, however it was not yet clear what could cause these changes in identity strength in this specific situation.

The workshop was held at the office of the Dutch military engineers several months after all the attendees of the MeS case returned home. Fifteen individuals, who are all empirical experts, participated in the workshop. The other individuals have operated in similar situations in various missions throughout the world. The age varied between 26 and 53 years old and the ranks varied between corporal and lieutenant-colonel. Fourteen participants were part of the Royal Army and one officer was part of the Royal Air Force. Four of the fifteen participants were in MeS during this case study.

The individuals were informed about the background of our study and also the line of argument based on literature regarding the effects of identity on cooperation was explained. After each statement drawn from literature the individuals were asked whether they recognized what had been stated, for instance the literature states that identity influences

cooperation processes between various groups, the researcher would make this statement and then asked the participants whether they recognize this and whether they agree with this statement. Each participant had a paper form in front of them on which they could note down their answers to the questions. After everyone noted down their own answer the researcher initiated a general discussion based on the individual notes.

Two questions were asked:

- 1) Do you think that Identity influences cooperation process between various military groups? Please explain why.
- 2) Do you recognize from your own experiences that you sometimes identify more or less with certain groups? And could you indicate three reasons which could cause these changes in identification?

In the workshop the goal was not to reach a consensus, but to explore the various reasons and explanations that individuals, who are experts, had. The aspect of anonymity was upheld, as individuals first wrote down their answers and they did not need to share them if they felt uncomfortable. Another positive effect of writing down answers before discussing the issues, is that other people were not able to influence the initial thoughts of the person noting down their answers. This aspect has proven to be very useful and effective in order to generate more and more diverse ideas. The discussion about the issues put forward by others was especially useful as it gave more insight into the written answers and it also clarified what people meant with them.

RESULTS

In this section the outcomes of the study will be discussed.

Description of the Sample

The researcher was unable to issue the questionnaire on time two and not all participants were willing to cooperate on time three, consequently of merely eight individuals three measurements were retrieved. All eight individuals are males, the age of the individuals varies between twenty-two years and fifty years old and the number of years that they have been in the military varies between one-and-a-half years and thirty-two years. The education background varies between individuals who have a high school diploma and individuals who completed higher vocational education. Additionally the individuals differ in their experience in out-of-area missions, for two individuals it was their first deployment, while for others it was their third or even fifth deployment. An overview of the characteristics of the sample is given in Table 1.

Age	Educational level	Tenure military profession	Rank	Number of completed deployments before MeS
39	Lower vocational education	11,5	Sergeant-major	1
22	High school diploma	5	Soldier	2
39	High school diploma	19	Sergeant	2
22	Lower vocational education	4	Soldier	1
50	High school diploma	32	Warrant officer	4
26	Higher vocational education	3	First Lieutenant	0
20	Lower vocational education	1,5	Soldier	0
36	Higher vocational education	13	Captain	1

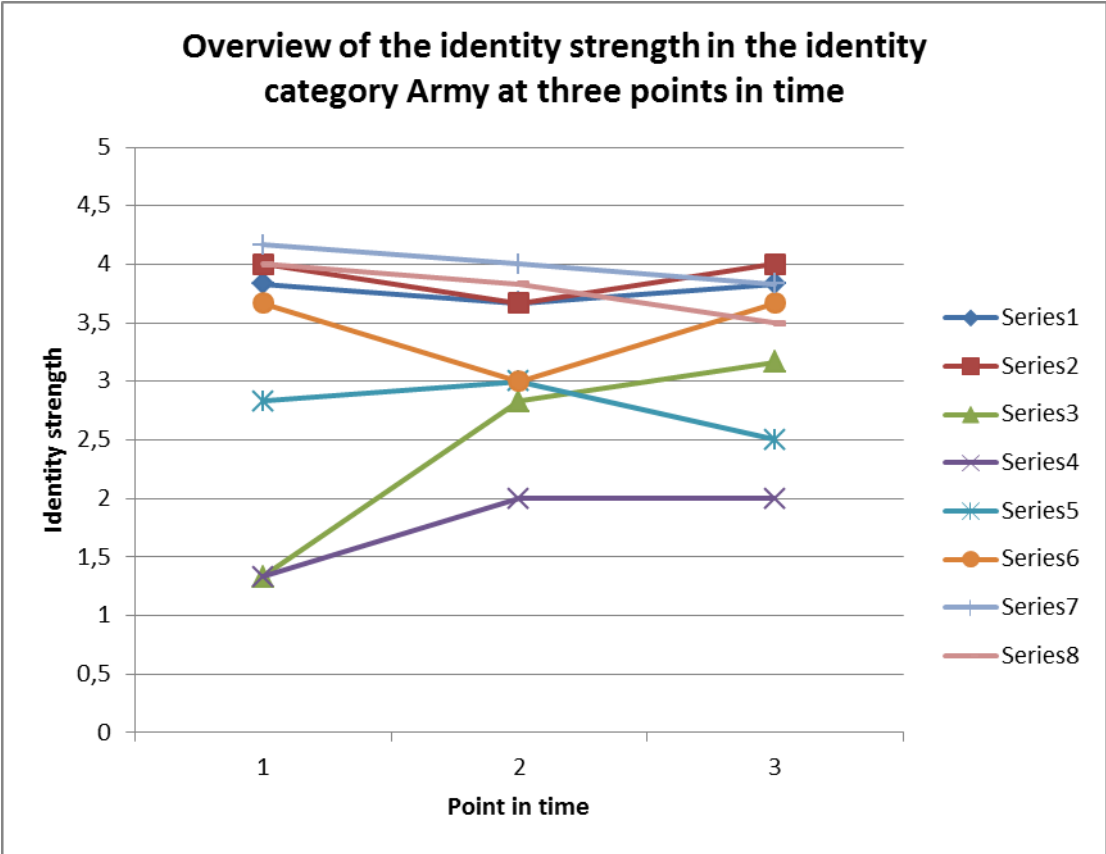
Table 1: Overview of the characteristics of the sample

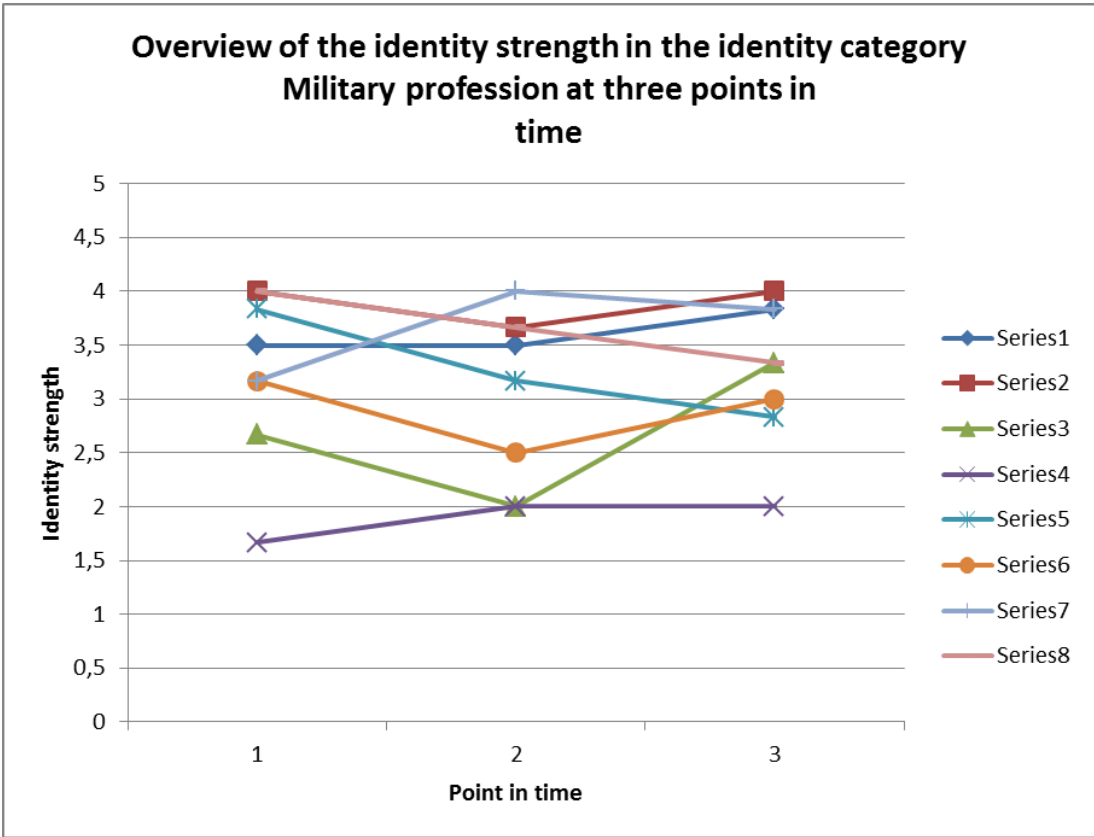
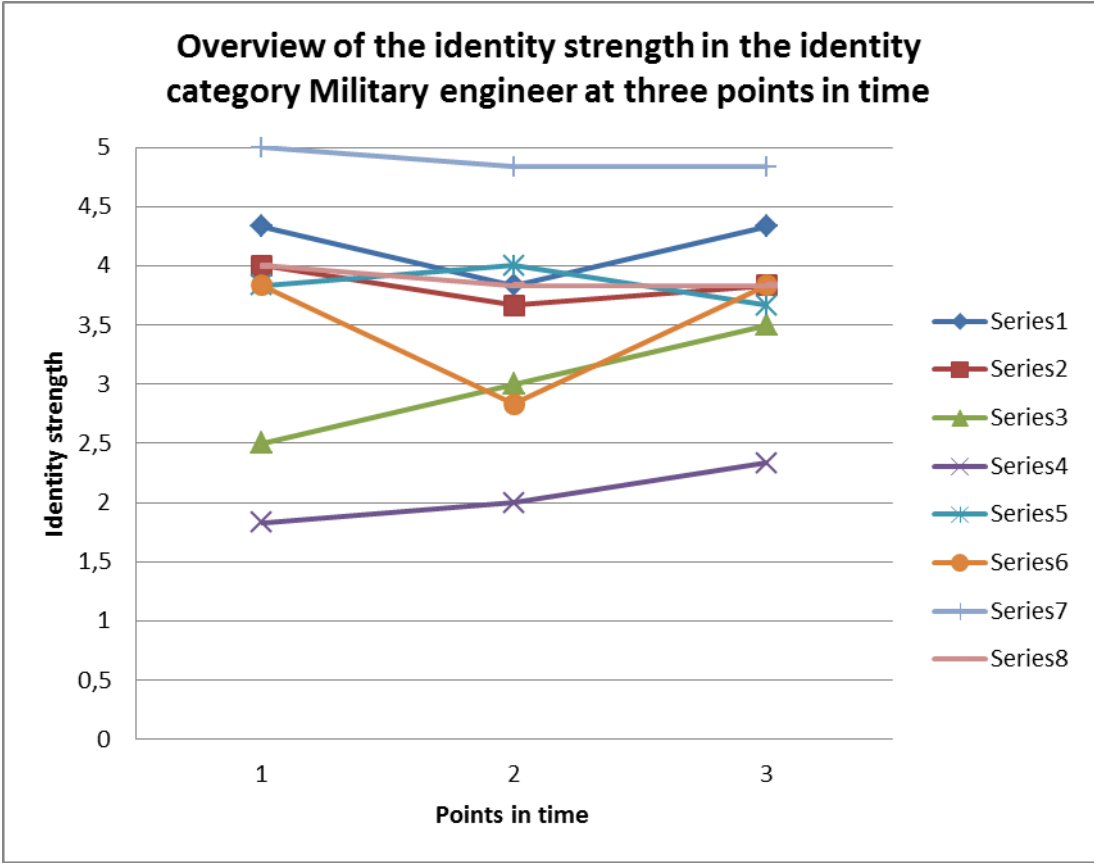
The Scores on the Identity Measure

As described in the literature review identity is a multi-level variable, so individuals can identify with several identity categories at the same time. In the case of MeS the scores on the following four identity categories were measured: the strength of Royal Army identity, Military Engineer identity, Military Profession identity and National (Dutch) identity. These specific categories were chosen as the group of the military engineers all fell in these four categories. However, the engineering project team consisted of both the air force technicians and the German engineers. This team created the context in which the Dutch military engineers had to work and which could consequently instigate the change in identity strength. For example, the cooperation process with the German engineers can affect the strength of the Dutch identity and cooperation with the Dutch air force technicians can increase feelings of

being of the army. However, the commonality amongst the three groups making up the project team in MeS was the fact that they are all military personnel, which could create a common identity, which according to could help create the feeling of an in-group and consequently facilitate the cooperation process.

As the groups are not large enough to perform a statistical analysis, the data had to be approached in a more explorative way through graphs. Figure 2 gives an overview of the identity strength of the four different identity categories at three points in time.





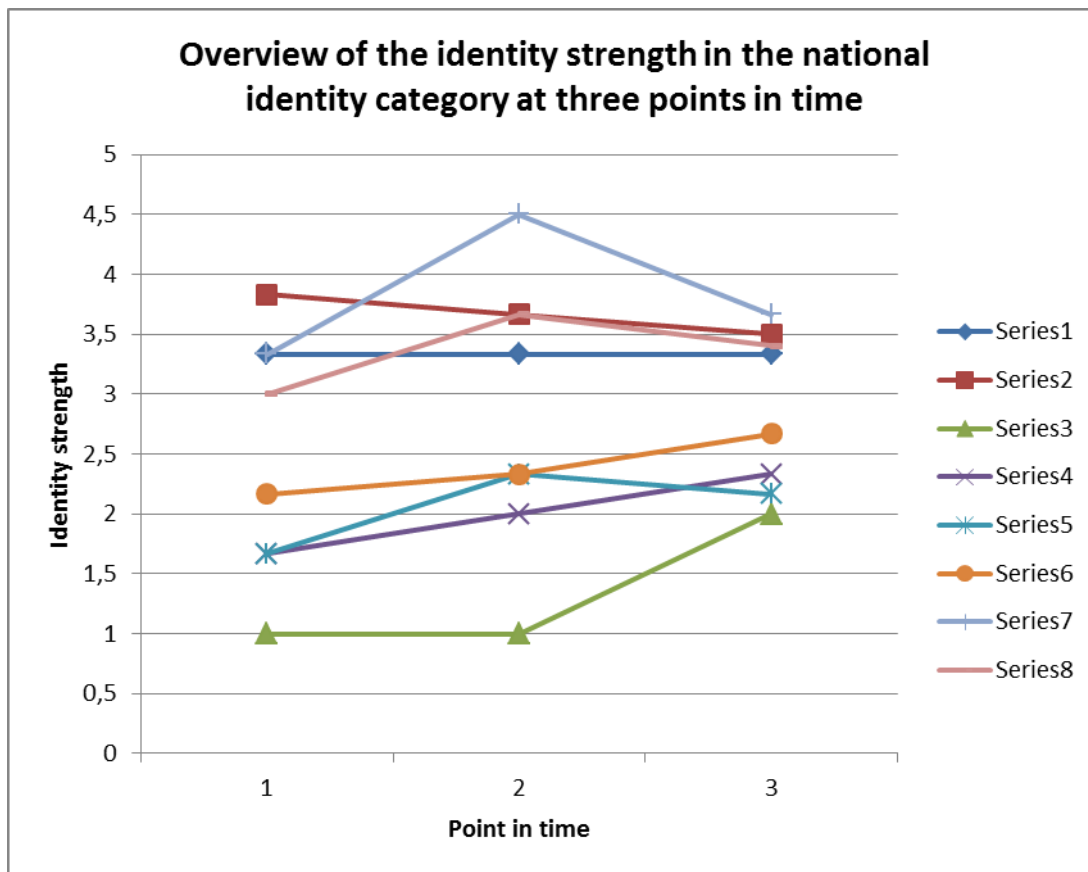


Figure 2: Overview of the identity strength for all four identity categories; per graph the scores of eight participants on three points in time are shown.

Each line in the graphs of figure 2 corresponds with the scores of a specific participant; the number is the same for each participant in all four graphs.

What strikes in the graphs is the fact that for most participants the identity strength on time 1 is almost the same to the score on time 3, while on time 2 the score is either higher or lower. So, the identity strength changes during the project.

Another striking result is the fact that it appears as if identity strength is somewhat of a personal characteristic. For instance the highest identity score for each of the four identity categories is measured for the same person (number 7), while the lowest identity scores for all four identity categories is also measured for the same participants (number 3 and 4). In order to get a clearer image of this trend an overview of the identity scores per participant was created (see Annex 2). The graphs in Annex 2 show that the spread amongst the scores per person differ, some have a spread of 2 points while for others the scores are almost identical, for example for participant 4. For two participants all the scores are under the ID strength 3, which hints into the direction that these two individuals generally do not identify strongly with certain groups. One participant scores two ID groups under ID strength 3 and two above the ID strength three. The other five participants all score above the ID strength of 3 line.

So, the results show that the extent to which individuals identify themselves with certain groups changes during a military mission. It appears that the initial measurement and the last

measurement of individuals are approximately the same, while the measurement during the mission varies. This might indicate that the mission or the circumstances during the mission influence the group identity strength. The results also show that the extent to which people identify themselves with a group might be a personal characteristic: the scores of participants show trends. For instance, one participant always has the highest scores and one always the lowest.

Results of the Workshop

Description of the sample

The workshop started with a short theoretical outline of the theories regarding identity and the possible effects of identity on cooperation. The first question which was asked to the group, was whether or not the participants thought or experienced that identity feelings influence the cooperation between various groups. Of the fifteen individuals who attended the workshop, merely two indicated that they did not think that identity influences the cooperation process between multiple military groups. Nonetheless, one of these two individuals provided an example which actually illustrated that identity *does* influence cooperation. The example which was given illustrated that a common identity positively influences cooperation processes between groups; so it was an example of the positive effects that identity can have. The example was that it was the green suit (pointing to the army uniform alias their ‘common identity’) that connected them and which caused that they helped each other.

Several participants who indicated that they did feel that identity influences the cooperation processes between various military groups gave examples in which identity negatively influenced the cooperation process. It appeared that especially stereotypes and pre-conceptions caused the cooperation process to suffer, as they influence issues as liking the own group more and thinking that the own group is better than other groups. Some individuals indicated that time decreased the negative influence of identity, as people got to know each other better, however other participants provided examples in which time strengthened the ‘us versus them’ feelings within a group and the groups drifted apart even more which led to several escalations.

After this first discussion round the workshop proceeded with a short theoretical explanation regarding the fact that identity is not a stable ‘thing’. This comment was illustrated by the four graphs in figure 2. Subsequently the question was asked whether they have experienced or noticed that their identity changed during a mission. Fourteen of the fifteen participants indicated that they have experienced changes in identity strength. After this response the researcher asked whether the participants could indicate to what could cause these changes. Or what had caused these changes in the past? Most of the participants wrote down three possible reasons, some noted four and other two. In the end 40 reasons different reasons were written down. These 40 reasons were ordered into six themes by the researcher.

Answers such as ‘the preparation before the mission-the introduction of one another’, ‘more understanding for the other groups because of more knowledge of each other’ and ‘you learn to know each other’ were grouped under the theme of ‘knowledge of each other’. After analyzing all the 40 reasons six common ‘themes’ emerged: 1) having negative feelings, 2) knowledge of one another, 3) working towards the same goal, 4) duration of the mission, 5) being in the same situation and 6) the connection with the people.

1) Negative feelings:

Negative feelings can originate from various sources, such as boredom, discrepancy between expectations and reality or irritation with others. In the case of MeS boredom was for instance caused by the fact the tools and materials had not yet arrived in Afghanistan, so individuals could not start the activities for which they were there. Another issue is the discrepancy between expectations with which people enter a mission and what the reality turns out to be. When the discrepancy between expectation and reality is very large this can lead to less satisfaction or sometimes even anger. An example of this in the case of MeS was the fact that the subcontractors had been told that they would construct housing facilities and other more complicated objects, however they ended up making doors and moving the same tents several times to various locations. And lastly, the confrontation with other groups can spark irritation, for example when the quality of work or the uniform discipline is not in accordance with the standards used in the own group.

2) Knowledge:

Several participants in the study indicated that knowledge of one another creates more understanding as to what everyone is doing, what their modus operandi is and also what their goals are. This understanding leads to more acceptance, and insight in why certain decisions are made and why groups behave in a certain way.

3) The same goal:

Working towards the same goal creates a state in which all individuals work into the same direction and are committed to achieve the same thing. When groups have different goals this can lead to a discrepancy in what each groups thinks needs to be handled first, it might even create a situation in which the interests of individuals contradict, which could lead to groups to counteract.

4) Duration of the mission:

The duration of the mission influences the amount of time that groups work together, and thus the amount of time that groups have to gain knowledge of one another. This factor actually increases or decreases the effects of several other factors which are mentioned, such as factor one and two.

5) Stuck in the same situation:

During a mission people are ‘stuck’ together in the same situation; they have to make it work and they can only do that together. So there is a need to work together, additionally working together creates a bond since individuals experience the same issues during a mission, for example losing a colleague or being exposed to danger. But also more harmless issues can create a bond, such as missing ones family or missing luxury products.

6) Personal connection:

The last of the six factors is the issue of personal connection with people. Several participants stated that the connection with individuals within the own team and across teams influences the extent to which one identifies with the/those group(s). The personal connection can be formed through for instance having similar values as to what is important in life, or having the same religion. Another aspect of the personal connection is whether there is a personality click: do people like each other or not?

So, it appears that the military personnel in the workshop did experience identity changes in a mission and that there are several contextual factors which might cause these changes.

CONCLUSION AND DISCUSSION

The central research question in this paper is to what extent and how do identity feelings of individuals, who are part of a cross-organizational military engineering project team, changes in a military mission? Additionally this paper aimed at developing an outline for further research regarding the influence of identity on the effectiveness of cross-organizational military engineering teams.

The results of the identity questionnaire show that the extent to which individuals identify themselves with certain groups changes in a military mission. In this specific case of MeS the environment of a mission increased the Dutch identity of more than half of the individuals, while the identity strength of the other categories decreased. The identity scores on time two are different from the scores on time one and time three, so it appears that identity strength is sensitive to the influence of contextual factors. Additionally, the graphs in figure 2 show that the identity strength on time one and on time three are approximately the same for several participants, which could hint in the direction that the extent to which someone identifies with certain groups is something more or less stable. This statement is further supported by the graphs in annex two which show the identity scores per participant. Additionally, this idea of a base-line of identity strength is in line with previous research which conclude that identification is somewhat of a personal characteristic (Mael & Ashforth 1995). Therefore, the conclusion which can be drawn from the identity survey is that the group identity strength of individuals who are part of a cross-organizational military engineering team changes in a military mission, however the extent to which participants identify with certain groups and the extent of the change in identity strength depends on the individual.

As to the question which contextual factors might influence identity strength in such a complex and extreme environment a workshop was organized. The discussion between the participants during the workshop and the answers they noted down gave a variety of responses. These responses were analyzed and grouped together by the researchers, which led to six overarching themes: 1) the prevalence of negative feelings strengthens the negative effects of identity on cooperation; 2) Having more knowledge of the different groups, what they do and how they work, was indicated as a variable that could decrease the negative effects of identity; 3) in a situation in which groups have the same goal the will to work together will be more apparent, this could lead to a common identity; 4) The feeling to be 'stuck' in the same situation could create a bond, which could lead to more identification with the group as a whole; 5) the duration of the time spend together during a mission increases the effects of factor two and factor four; and the last theme is 6) having a positive personal connection with people from the other groups, when there are personal issues with individuals from other groups this sometimes sparks in-group versus out-group feelings. Some of the factors which were identified during the course of the workshop and later in the analysis were also identified by other researchers as variables which may function as determinants for social categorization. Sole and colleagues (1975) for instance, name common threat, common fate and physical proximity (p.25). Elron, Shamir and Ben-Ari (1999) later found the same result for 'shared fate'; according to them a shared fate unifies individuals.

It is very probable that these six factors will influence identity strength and consequently influence the cooperation processes in cross-organizational engineering projects in general. However, we do believe that the effect of these factors might be stronger in a military mission than in civil projects since these factors might be experienced more intensely, such as factor six having a positive personal connection: when an individual is at home, it can evade a person with whom it has personal issues, it can make sure that it ventilates feelings and it can get renewed energy to cope, however during a mission there is no time to renew your energy or get away from that person as you eat, drink, sleep and work together, and in the case of MeS these activities even took place in the same tent.

When linking the results from the identity survey with these six factors which could influence identity strength, one could state for this case of military engineers that several of the six factors were prevalent and therefore might well instigate the various changes in identity. Perhaps it would also explain why for some participants the identity strength decreased while for other it increased, as some for example had negative experiences with people of the other groups, and others for example were very aware of the common goal which brought them together. Another explanation for the differences in identity strength changes per person could be found between identity strength and demographical characteristics of the individuals. At time one the population was large enough to investigate the relation between demographical characteristics and the scores on the identity questionnaire, at that point in time no relation was found. However, at time two and three the population was too small to investigate this relation, so in this specific case the influence of demographical characteristics on changes in identity strength is unknown.

Even though it is often difficult to exactly pinpoint the social categorization process (Tajfel, et al. 1971), we do believe that the results of the MeS case show the following: identity strength changes in a mission, individuals working in a cross-organizational military engineering team identify with several identity groups at the same time and several contextual factors can be pointed out which influence identity strength. So, the results of the case indicate that what we know about identity and the way it is affected is also applicable in a military engineering context. However, this study does not yet generate insights as to how these changes in identity strength influence the cooperation process between the various groups. Therefore, future research should investigate the relation between various team effectiveness variables and identity strengths in cross-organizational engineering projects.

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ANNEX 1 IDENTITY SCALE BY MAEL AND ASFORTH (1989)

1. When someone criticizes (name) it feels like a personal insult
2. I am very interested in what others think about (name)
3. When I talk about this (name), I usually saw ‘we’ rather than ‘they’
4. This (name)’s successes are my successes
5. When someone praises this (name), it feels like a personal compliment
6. If a story in the media criticized the (name), I would feel embarrassed

Answers were measured on a Likert scale with 1= strongly agree and 5= strongly disagree.

ANNEX 2 OVERVIEW SCORES FOR ALL FOUR IDENTITY CATEGORIES FOR EACH SPECIFIC PARTICIPANT

Series 1 = Army identity

Series 2 = Military engineer identity

Series 3 = Military profession identity

Series 4 = National identity

