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Informal Leadership in Small Groups

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Abstract

This study identified factors and variables of informal leadership in small groups with different gender composition (Men, women and mixed groups) and goal orientation (competition and cooperation). Behavioral dominance patterns (Information Sheet, pencil, decision sheet) and number of verbal interventions were compared to the main informal leadership factors identified in the groups. There were 24 participants (12 men and 12 women). Among the main variables and factors identified, there were some that had a higher possibility to appear than other. There was no significant difference of the factors and variables between women and men. Communication variables were more likely to be present in groups with the goal of cooperation as for the goal of competition. Guidance variables were more likely to be present in women groups than in men groups and mixed groups. There was a significant correlation between the factor's Communication, Character and Guidance with the number of interventions and behavioral dominance patterns.

Keywords: *Informal leadership, gender, competition, cooperation, small groups, behavioral dominance.*

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1. Introduction

Nowadays, it is possible to identify leadership in a variety of places and in different situations (E.g. in organizations, companies, religious organizations, groups, friends, families and so on). Researchers, scientists, professionals, among other, have paid great interest understanding the components of leadership that makes people reach high levels of efficiency and productivity. Leaders can be found all around us, and they are important in order to organize groups and reach desired goals.

A large number of approaches have been made regarding the topic of leadership with a diversity of methodological approaches, as for example, quantitative, qualitative and mixed methods (Bryman, 2011). The diversity of perspectives makes it difficult to formulate a single definition of leadership. The authors, Bass and Stogdill (1990), suggest that the definition should be elaborated in accordance with the purpose to be served. In that situation, it could be conceived as a personal characteristic, skill, instrument to attain objectives, power relation, and job role, among other. However, the authors (Bass & Stogdill, 1990) describe leadership as an interaction between two or more people of a group that often involves a structuring or restructuring of the situation and of the perceptions and expectations of the members. Leaders are agents of change; whose acts affect other people. Leadership occurs when a person of the group modifies motivation or skills of others. Leadership can be conceived as directing the attention of their members to goals and the paths to achieve them (Bass & Stogdill, 1990).

The research on the topic has paid most of the attention to formal leadership, even though, there is some evidence that shows interest in studying and exploring more about informal leadership (E.g. Bass, 1990, Robins & Zirinsky, 1996, Feyerherm, 1994; Rusaw, 1996; Pescosolido, 2002; Alvesson and Deetz, 2000, among others). Formal leadership is the one with legitimacy and power to lead, as on the other side, informal leadership refers to a person who influences others, and who has no formal position of authority over a group of people, but this is achieved by their personal characteristics. Pielstick (2000), states that informal leaders are seen as more communicative, relation oriented, authentic, and self-confident, than formal leaders. Bryman (1992) mentions that informal leaders could arise in newly formed small groups without structure, for example, in street gangs, in small groups of friends, and in organizations, among other).

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Other scholars, as for example, Schneier and Goktepe (1983), define informal leadership as a person who employs influence over other group members. In relationship with the previous definition, other studies have added that informal leaders come from the team and are chosen by the team (Hollander, 1961; Wheelan, 1996). More recent studies have shown that informal leaders do not receive a special reward for their actions, and they don't have the power of hiring and firing people, as the formal leader has (Bryman, 2004; Pescosolido, 2001). An additional study showed that informal leadership has a strong influence on the performance and achievement of objectives (De Souza, 1995).

The author Pielstick (1996, 1998), developed a leader profile based on his previous research in transformational leadership. The leader profile is expressed as “authentic leading”, which is described in six main factors: character, communication, community, relationship, guidance and shared vision.

Character refers to the personal characteristics that are most common among leaders. The characteristics are selected from authentic leaders. It is also not considered that all of the personal characteristics appear in all individuals at the same time. Between the most common can be found, as for example, a person who is caring about other people, is self-confident has sense of humor, is intelligent, etc. (Pielstick, 2000).

Communication is considered a dialog, of two-way sharing (E.g. information, ideas, and meanings, between other) in order reach a purpose, goal or vision. As this factor is a two-way sharing, the ability of listening, understanding and articulating are considered some of the most important. Communication can be used to incentive, guide, motivate or unify followers and leaders (Pielstick, 2000).

Community refers to the ability of creating a good relationship and increasing commitment among the people in order to reach a goal or shared vision. A leader who shows Community has usually clear his values and acts the same way he predicts. In authentic leaders, some values that had a higher incidence were for example, a person who treats others with respect, is fair, cares about the right of others, is honest, between others (Pielstick, 2000).

Relationship is related to the way how people interact and share. Most common descriptions used in definitions include the words: shared, two-way, mutual, collaborative, and collegial. A leader with this characteristic could be one that is completely engaged with

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the group he works with by creating of trust in order to achieve the shared vision and goals (Pielstick, 2000).

Guidance can be understood as a way people communicate and act in the same way, creating good relationships with the followers in order to direct the actions to fulfill a goal or shared vision. Leaders who have these characteristics also can provide opportunities to learn and grow among the people they are related.

Shared Vision is considered as one of the most common characteristics identified in leaders. Shared vision can be understood as when a leader and the followers raise together and follow a common higher purpose based on shared needs, values, beliefs, and/or ethics, among other. To reach such a purpose the leader may share a vision, but not impose it (Pielstick, 2000).

The six main factors mentioned above which include 87 variables that describe informal leaders are shown in Table 1.

Table 1. Informal leadership factors and variables by Pielstick (2000)

Factor	Variable
CHARACTER	Distinguishes unique situations / Encourages imagination and creativity / Has a need for power / Has a sense of humor / Is a moral leader / Emphasizes service above self / Is a transforming leader / Is altruistic / Is caring / Is centered / Is credible / Exhibits honesty and integrity / Is disenchanted with the status quo / Is ethical / Is fair / Is flexible / Is intuitive / Is motivated by higher purpose / Is open / Is personable / Is principle-centered / Is responsive / Is a servant-leader / Likes to have fun / Pulls rather than pushes people along / Uses authority of position / Uses fear or coercion / Uses good judgment / Is humble / Is well rounded / Treats everyone with dignity and respect
COMMUNICATION	Communicates common values / Accepts criticism / Encourages / Engages in interactive dialogue / Gives feedback / Inspires / Leads by example / Listens to others / Motivates / Provides information / Receives feedback / Shares ideas and issues / Shows appreciation / Shows consistency / Uses stories / Receives information / Seeks to understand before being understood / Walks-the-talk / Weaves in a higher purpose
COMMUNITY	Emphasizes service above self / Is fair / Exhibits honesty and integrity / Is a servant-leader / Is humble / Vision bases on shared needs, values, beliefs / Treats everyone with dignity and respect

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Factor	Variable
GUIDANCE	Builds coalitions / Builds trust / Coaches others / Engages in his or her own learning / Engages in personal renewal / Engages in politicking / Builds teams / Engages in moral reasoning and principled judgment / Gives recognition to others / Provides opportunities to learn and grow / Mentors others / Promotes gender equity / Sets the example / Supports cultural diversity and unity / Teaches others / Uses creative thinking / Uses reflective thinking / Teaches moral reasoning and principled judgment
RELATIONSHIPS	Collaborates with others / Demonstrates equity / Empathizes with others / Fully engages when relating to others / Recognizes needs of others / Treats everyone with dignity and respect
SHARED VISION	Provides meaning / Has a moral purpose / Has an inspiring purpose / Is based on shared needs, values, beliefs / Provides focus / Provides for the common good

Source: Adapted from Pielstick, 2000 (Table 6).

The social role theory provides a good approach in understanding similarities and differences between women and men; the role they have related to performance and in various settings in society; and the behavior they adopt. This theory also gives some hints about differences between groups consisting of men, women and mixed, and groups with the aim of cooperation or competition. There is little evidence about studies related to gender and leadership, even though some findings state that differences between men and woman has been changing in the last decades; women have become more dominant and assertive; and their preference for leading has increased (Eagly & Carli, 2007). Other studies have done contributions as well, one early approach done by the authors Eagle and Wood (1991), mention that there is no overall sex difference in either interpersonal or task style; however, women show more concerns about interpersonal relations than men. The research done concludes that there is a tendency for women to take the role of a leader in a more democratic way, as men in an autocratic way (Eagly & Wood, 1991).

The social role theory says that the beliefs that people have about women and men is based on observations of their performance, and therefore, it is shown a sexual division (E.g. Labor and gender hierarchy differences); these beliefs constitute the gender roles (Eagly, Wood, & Dickman, 2000). Findings show that in mixed-sex groups, men more than women, tended to specialize in behaviors related to the accomplishment of tasks; and women more

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than men, tended to behaviors related to the maintenance of groups (Strodtbeck & Mann, 1956).

The gender roles emerge from the activities carried out by the individuals of each sex; and the characteristics required to realize these activities become stereotypic of women or men. Therefore, men acquire dominant behaviors for successful role performance, and women acquire more communal, domestic behaviors for successful role performance (Eagly, et al., 2000). Men are also associated with more masculine qualities, as for example, physical strength, assertiveness and leadership qualities; as women are associated more with feminine qualities as for example, pleasing physical appearance, kindness and nurturance (Eagly, et al., 2000). According to this theory, in task oriented groups, men are thought to be more competent than women, when competence is built in terms of the agentic qualities because of its functions as a high-status cue (Eagly, et al., 2000). Meanwhile, low status cue is associated with communal behavior; Ridgeway and Diekema (1992) argued that women behave in a more cooperative and group-oriented way in group settings. The authors state that women who behave in a group-oriented way can have more influence than they otherwise would, whereas, the influence by men stays unaffected by such settings (Ridgeway, 1982; Shackelford, Wood & Worchel, 1996).

Studies show that there is a less positive attitude toward female leaders than men; furthermore, it is more difficult for women to take the role of leader and achieve success in leadership roles (Eagly & Karau, 2002). A study related to effectiveness of men and women occupying leadership or managerial roles indicate that both, men and women, were equally effective. Still, some minor differences were found, showing that men were more effective than women in roles that were defined in more masculine terms, and women were more effective than men in roles that were defined in fewer masculine terms (Eagly, Karau, & Makhijani, 1995).

Other interesting findings by Eagly and Crowley's (1986) show that in the presence of other people, men are more helpful than women. This behavior can be explained because they may want to gain the approval of others by executing heroic actions (Eagly & Karau, 2002).

An approach done by evolutionary scientists showed that men cooperate more with their own group, only if they are competing against other groups. These findings suggest that

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men respond stronger than women to inter group threats (Van Vugt, De Cremer, & Janssen, 2007).

As mentioned above, there is diverse evidence supporting studies about leadership and gender. Most of the research on leadership has been centered on formal leadership and few on informal leadership. Related to gender, some authors argue that there are differences between men and women related to leadership (Eagly & Carli, 2007), but at the same time others say there is no significant difference (Eagly & Wood, 1991). Differences in behavior also have been found in relationship of how groups are composed (E.g. Male, Female, Mixed) and based on the goals the people are oriented orientation (E.g. Competition, Cooperation). The research in the field of gender roles, goal orientation, and group composition is still developing, as well, for informal leadership.

1.1 Purpose

The purpose of this study is to identify and compare factors and variables of informal leadership in small groups with different gender composition (Men Group, Women Group, and Mixed Group) and goal orientation (Winn/competition, Sense of community/cooperation). Behavioral dominance patterns (Information Sheet, pencil, decision sheet) and numbers of verbal interventions done are compared to the main informal leadership factors identified in the workgroups. In order to achieve the previous mentioned purpose, the following hypotheses are raised:

Hypothesis 1: It is possible to identify factors and variables of informal leadership in individuals within small groups during a working time of 15 minutes and establish a relationship among them.

Hypothesis 2: It is possible to identify a correlation between the main informal leadership factors and the number of interventions and behavioral dominance patterns shown by the individuals within the small groups.

Hypothesis 3: It is possible to identify differences between the main informal leadership factors and gender (male / female), group condition (competition goal / cooperation goal) and group composition (only women group / only men group / mixed group) shown by the individuals within the small groups.

2. Methodology

2.1 Participants

This study included a total of twenty-four people, of which twelve were men and twelve women. The participant's age ranges from 19 to 48, with a mean of 24.78 and a standard deviation of 6.06. The individuals were randomly divided into groups (among three to five people in each group). These groups were selected from a major research project at Mid Sweden University in the city of Östersund, Sweden, which is investigating decision making in small groups. The research has been done during 2008 and 2011, and a total of 42 groups have taken part in the research so far.

2.2. Data collection procedure

The individuals who participated in the study were randomly assigned to one of the different groups. They could be assigned to a men's group, women group or mixed group; with a goal orientation of competition or cooperation. After have created the groups, they were assigned different tasks, (a) Win/Competition (b) Sense of Community/Cooperation, and divided into only men, only women, and mixed groups, as mentioned before. For the execution of the task, the groups were assigned a room; they were given brief instructions of what they have to do, as well some material was provided (Information sheet, pencil and decision sheet). The information sheet contained 20 pictures of people with the name, profession and hobby. The pencil was used to write the answers of the task on the decision sheet. Then the participants were told that they were members of a fictitious association, and that they had to put together a relay team for a two day long running competition. However, unfortunately, they were injured and could not run by themselves. Two different instructions were done, based on the goal orientation of the group (Competition or Cooperation). One group was told that the association had achieved well before, and the task was to put together a team to maximize the chances to win (competition). The second group was told that the association had many laughs and pleasant memories before, and the task was to put together a team to maximize a sense of community (cooperation) (Zakrisson, 2012) . The group work was recorded on film during 15 minutes that the participants had assigned to complete the task. After have completed the workshop, the participants were administered a survey. For this study, one question of the survey was taken into account, which asked the participants if someone in the group took on a leadership role. Among the answer provided by the 42 groups that participated in the research, six groups were selected, which had obtained the highest

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results (see table 2). These six groups were selected and in accordance to fulfill the options of gender composition and goal orientation.

Table 2. Selected groups for the study based on gender composition and goal orientation

Groups	Gender composition	Goal orientation
Group 2	Men	Win / Competition
Group 3	Mixed (Women and men)	Win / Competition
Group 14	Women	Win / Competition
Group 19	Men	Sense of Community / Cooperation
Group 28	Women	Sense of Community / Cooperation
Group 41	Mixed (Women and men)	Sense of Community / Cooperation

Then the recorded dialogs on video at the workshops were transcribed, which were used for the analysis. The behavioral dominance patterns were registered, consisting of the amount of time the participants in the workshop hold the information sheet, pencil and/or decision sheet. The next step was to analyze the transcriptions of the dialogue of the six groups.

The information collected is used solely for research purposes. No data will be reported that in some way to identify individuals. The participation in the project is completely voluntary, and the individuals are allowed to cancel the participation at any moment. The research has taken into consideration the principles of the Swedish Research Council.

2.3. Variables

Pielstick (2000) in his original work identified six factors (Character, Communication, Community, Guidance, Relationship and Shared Vision) to describe informal leadership, and, which consisted of a total of 87 of variables that can be identified in people (See Table 1). For the current study not all the 87 variables were included; firstly, some repeated variables were discarded, as for example, (a) Emphasizes service above self, (b) Exhibit's honesty and integrity, (c) Is a servant-leader, (d) Is fair, between other; secondly, some other variables were excluded because it was not possible to identify them clearly in the dialogues of the group, as for example, (a) Is credible, (b) Has an inspiring purpose, (c) Engages in politicking, (d) Builds coalitions, among other. After have realized the analyses of the

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dialogue of the groups, a total of 27 variables were identified divided into five factors. The variables included in the study are shown in Table 3 including some examples of how it was identified.

Table 3. Shows the informal leadership variables and examples found in the dialogue

Factor	Variable	Example
CHARACTER	Likes to have fun	(Fnittrar) / (Skrattar)
	Has a sense of humor	Han fick stanna hemma med barnen (Skrattar) / Prästen och psykologen får väl dela på något snack, om det går dåligt för de (Skrattar)
	Is flexible	Eller? / Skriver väl här då, eller sista? / Jo, det spelar ingen roll för mig / Vi kanske ska tänka så också? / Här kan man både göra som du vill och som...
	Uses good judgment	Men det är ändå fem sträckor, så även om man ligger bra till här så kan man tappa bra här. Men jag skulle kunna tänka mig att ha hon här som är stark på löpning, ha henne på den sträckan, den är lång och... / Det står ju att de har god gemenskap, de är tjugo pers, man kan sätta in allihop egentligen
	Distinguishes unique situations	Man kan blanda på många sätt här också... / Eller så kan man sätta en stark löpare på femton, utnyttjar man honom mest och så sätter man en svag på fem
	Is caring	Ja den här kan ju kännas lite konstigt, även fast hon är bra kan hon få hjälp av någon där / Tänk om hon får hjärtinfarkt / Men det känns ju elakt att plocka bort någon
	Is motivated by higher purpose	Ja, man vill ligga bra till efter första dagen men man vill ju även ha en bra slut... / Ja vi vill ju ha lite mer också!
	Is fair	Och så här en annan grej för att ingen ska bli ledsen för vilken plats de hamnar på och vem de hämnar med och så här så kan man ju bara ta de typ i åldersordning
COMMUNICATION	Shares ideas and issues	Hon ser också rätt "fit" ut, hon går ju på spinning det är konditionsträning / Det är viktigt att ha någon bra på slutet också / Jag tänkte på (pekar) och den, han är ju lite äldre
	Provides information	Här nedan ser ni medlemmarna, namn, ålder, yrke och fritidsintresse, i föreningen I.M.O. Ni ingår själva i föreningen. / Hon håller på med gymnastik det är också rätt så / Tjugo stycken / Fotboll
	Listens to others	Ja / Ja, precis / Ja det är också / Nej / Också...
	Engages in interactive dialogue	Skall vi sälla bort hälften då? / Jo men hon kan ju springa en 15 / Alltså menar du att det är fem kilometer mer? / Alla talar i mun
	Gives feedback	Bra början, går ner lite igen och bra avslutning / Vi har tio kilometer kvar. / Då har vi två kvinnor och tre, fyra män
Seeks to understand before being understood	Eller vem? / Jaha är det två som kan springa tjugokilometers... Ok / Menade du att hon skulle springa femton själv eller?	

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Factor	Variable	Example
COMMUNICATION	Accepts criticism	Men då får han köra den här på 10 då / Det känns ju typ som att...(avbryts) / Ja jag får se opp med vad jag säger
	Motivates	Nu har vi ett vinnande lag! / Det känns som ett vinnande lag! / Det blir bra!
	Receives feedback	Eller vad tror ni? / Tycker ni? Tycker ni elva är för många? Ja / Ja men det är bara att köra
GUIDANCE	Gives recognition to others	Ridsport...ja! /Ja det känns mycket bättre / Det är smart att göra så / Absolut / Det är ju också bra!
	Uses reflective thinking	Fast de får inte vara för lika heller. / Det är så svårt också, ska man gå in starkt i början och dra ifrån de andra eller tror man att man ligger först i slutet då kanske man inte behöver ha... / Man borde ju gå efter det man vet också, man måste ju gå efter det man vet, vi vet ju inte speciellt mycket om de här människorna, som vi skulle ha gjort om det här var ett riktigt, om vi hade vart med i laget på riktigt.
	Supports cultural diversity and unity	Det skulle vara roligt att sätta ihop de lite annorlunda liksom / Fast alla ser glada ut / Men det är ju alltid positivt att blanda
	Uses creative thinking	Och så har vi ju en som gillar att fiska, då kan de ju prata om hur man kan tillreda fisk / Egen företagare, han kan inspirera
	Promotes gender equity	Men blandning av tjejer och killar väl? Ja / 10 killar 10 tjejer. Ja
RELATIONSHIPS	Collaborates with others	Ja gör det / Ja men det kan vi göra / Vilka ska vi ta bort då? / Har vi tagit alla nu?
	Empathizes with others	Det var lite så jag tänkte / det blir bra det här! / Ja just det. / Ja det är ju viktigt / Ja precis, man vill ju inte ligga långt efter
	Treats everyone with dignity and respect	Varsågod / ...det är ju bara fördomar, som en som samlar frimärken kan ju vara mycket bättre på att springa än...
	Demonstrates equity	Ja det är viktigt att alla ska få vara med / Men det kan ju vara kul om alla kunde ha deltagit, så känner alla gemenskap
SHARED VISION	Provides focus	Då har du trevligt på vägen, annars är ju målet bara att vinna / De ska väl ha det så roligt som möjligt / För alla är ju i samma lag ändå och hör ihop / Ja, men sen måste vi tänka på gemenskapen, de måste ju...

These 27 variables were analyzed in all the individuals who participated in the workshops in order to identify the frequency they appear in all different constituted groups.

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Behavioral dominance patterns were also taken into account, which consists of the percentage of time that the individuals in each group hold the information sheet (DIS), pencil (DPE), and/or decision sheet (DDS). The Behavioral Dominance Patterns are considered nonverbal behaviors that people can use as negotiation artifacts (Zakrisson, 2012).

The number of verbal interventions is referred to the number of times a person in the workgroup did a contribution (E.g. Shared an idea, commented, etc.) this can be used in order to the participation amount of each member.

2.3. Statistical methods

In order to answer to the questions posed in the paper, various statistical analyses were done. First, in order to identify the relationship between the factors and the variables of informal leadership, a reliability coefficient test was performed (Cronbach's Alpha). Second, a correlation test was done between the factors with the highest coefficient reliability. The Pearson correlation shows, whether there is a linear relation between two variables and how much, they may affect one another. Third, in order to identify if there is a significant difference between factors, One-Way ANOVAs test was performed. Fourth, when the results of the One-Way ANOVAs test showed a statistically significant difference, a post-hoc test, Tukey was computed.

3. Results

After have analyzed the dialogue of the six groups (24 individuals), a total of 27 variables was identified; as well, the number of times every variable took place, the mean and standard deviation. Of the 27 variables divided into the five factors it was identified the 10 most predominant (mean > 0.9). For the factor Communication, the most predominant variables were: Shares ideas and issues (mean = 10.54), Collaborates with others (mean = 8.00), Provides information (mean = 5.79), Listens to others (mean = 4.45), Engages in interactive dialogue (mean = 2.42) and Gives feedback (mean = 1.21). For the factor Character, the most predominant variables were: Likes to have fun (mean = 3.21) and Has a sense of humor (mean = 1.83). The factor Relationship, showed as the most predominant variable Empathizes with others (mean = 1.29). The factor Guidance, showed as the most predominant variable Gives recognition to others (mean = 0.96). The Factor Shared Vision showed a mean of 0.63 for the variable Provides Focus. The results for the variables related to the factor Communication were expected since the activity done in the workgroup

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demanded communication between participants and they had to share and discuss ideas in order to fulfill a purpose, (E.g. create a group to compete or cooperate). It is probable that the groups in such a short time were not able show or express the variables in a bigger extent. The results of the analysis with all the variables identified in the groups are shown in the Table 4 below.

Table 4. Descriptive statistics of the informal leadership variables, Sum, Mean and Std. Deviation

Factor	Variable	Sum	Mean	Std. Deviation
Communication	Shares ideas and issues	253.00	10.54	7.24
Communication	Collaborates with others	192.00	8.00	6.78
Communication	Provides information	139.00	5.79	4.35
Communication	Listens to others	107.00	4.46	2.95
Character	Likes to have fun	77.00	3.21	2.72
Communication	Engages in interactive dialogue	58.00	2.42	2.00
Character	Has a sense of humor	44.00	1.83	2.35
Relationships	Empathizes with others	31.00	1.29	1.30
Communication	Gives feedback	29.00	1.21	2.17
Guidance	Gives recognition to others	23.00	.96	1.16
Character	Is flexible	21.00	.88	1.39
Character	Uses good judgment	15.00	.63	.71
Shared vision	Provides focus	15.00	.63	1.10
Guidance	Uses reflective thinking	15.00	.63	1.10
Communication	Seeks to understand before being understood	14.00	.58	.97
Guidance	Supports cultural diversity and unity	11.00	.46	.88
Character	Distinguishes unique situations	8.00	.33	.56
Communication	Motivates	7.00	.29	.62
Communication	Accepts criticism	7.00	.29	.46
Relationships	Demonstrates equity	6.00	.25	.61
Character	Is caring	5.00	.21	.59

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Factor	Variable	Sum	Mean	Std. Deviation
Relationships	Treats everyone with dignity and respect	4.00	.17	.38
Relationships	Uses creative thinking	4.00	.17	.38
Guidance	Promotes gender equity	4.00	.17	.48
Communication	Receives feedback	3.00	.13	.34
Character	Is motivated by higher purpose	2.00	.08	.41
Character	Is fair	1.00	.04	.20

In order to identify the relationship between the factors and the variables of informal leadership, a reliability coefficient test was performed (Cronbach's Alpha). Additionally, to get a higher reliability, one variable in the factor Character was eliminated because it appeared only once (Variable: Is fair), a variable from the factor Relationship was not included (Variable: Supports cultural diversity and unity), and a variable from the factor Relationship was moved to Communication because it had a better fit there (Variable: Collaborates with others).

The results of the test showed that the reliability was strong for the factor Communication at 0.74 including ten variables, moderate reliability for Character at 0.60 including seven variables, Guidance at 0.59 including four variables. But the test showed a lower reliability for the factor Relationship at 0.17 including three variables, and Shared Vision had only one variable. Based on these results, only the three factors with the highest reliability (Communication, Character and Guidance) were selected to be used for the further analysis.

Next a correlation test was done between the factors with the highest coefficient reliability. The Pearson correlation shows, whether there is a linear relation between two variables and how much, they may affect one another. In the study, it was found that the seven variables analyzed (Communication, Character, Guidance, Number of interventions dialogue, Dominance of information sheet (DIS), Dominance of pencil (DPE) and Dominance of decision sheet (DDS)) are dependent on the others and vary in response to the changes these other variables show. All the variables show a positive linear relationship meaning that if one variable increases the others will also increase. The results are shown in the Table 5.

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The factor Communication is strongly affected by Guidance ($r=0.69$) and the Number of Interventions ($r=0.91$). These variables have a stronger correlation ($p<0.01$) between them. DIS, DPE and DDS also affect the communication variable but with a lower level of significance ($p<0.10$).

The Character factor is mainly correlated with Guidance ($r=0.70$) and Number of Interventions ($r=0.60$) variables. DIS is correlated with Character variable ($r=0.45$) with a significance of $p<0.05$. DEP and DDS variables affect the Character with a lower significance ($p<0.10$).

The Number of Interventions is strongly correlated with the factor Communication ($r=0.91$), Character ($r=0.60$) and Guidance ($r=0.71$). DIS, DPE and DDS also affect this variable but not as strongly as the other factors.

Guidance is the variable that is more correlated with the others. This variable is strongly affected ($p<0.01$) by Communication, Character, Number of interventions and DIS.

The variables DIS, DPE and DDS are strongly correlated with each other ($p<0.01$ and $p<0.05$). Pearson's correlation also shows a strong relation ($p<0.01$) between the variables DPE and DDS ($r=0.91$).

Table 5. Correlation (Pearson) between Character, Communication, Guidance, number of interventions in the dialogue, and behavioral dominance patterns

	1	2	3	4	5	6	7
1. Communication	1	-	-	-	-	-	-
2. Character	.392†	1	-	-	-	-	-
3. Guidance	.685***	.701***	1	-	-	-	-
4. Number of interventions in the dialogue	.913***	.602**	.713***	1	-	-	-
5. Dominance of information sheet (DIS)	.383†	.445*	.565**	.354†	1	-	-
6. Dominance of pencil (DPE)	.252	.278	.224	.288	.499*	1	
7. Dominance of decision sheet (DDS)	.388†	.265	.219	.397†	.617**	.905***	1

† $p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$

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One-Way ANOVA test was performed to see if there was a significant difference between gender (male and female) for the factors communication, character and guidance. The results of the test are shown in the Table 6. The results of the test showed that there was no significant difference between the factors.

Table 6. Means of communication, character, guidance and gender (df=1,22)

Factor	Male		Female		F	eta ²
	M	SD	M	SD		
Communication	29.58	14.98	37.83	24.51	0.99	.04
Character	5.92	6.13	8.42	5.35	1.13	.05
Guidance	1.25	1.22	2.58	2.91	2.15	.09

One-Way ANOVA test was performed to see if there was a significant difference between Groups Condition (Competition = Vinna; Cooperation = Gemenskap) on the factors Communication, Character and Guidance. There was a significant effect of Communication on Groups Condition at the $p < .05$ level for the three conditions [$Eta^2 = 0.30$, $F(1, 22) = 9.34$, $p = 0.006$]. The results of the test are shown in the Table 7. Meanwhile, there was no significant difference between Character and Guidance with Group Condition.

Table 7. Means of communication, character, guidance and group condition (df=1,22)

Factor	Competition		Cooperation		F	eta ²
	M	SD	M	SD		
Communication	21.91	11.68	43.69	21.00	9.34**	.30
Character	6.82	5.49	7.46	6.20	0.71	.00
Guidance	1.73	2.69	2.08	1.98	0.14	.01

** $p < .01$

One-Way ANOVA test was also performed to see if there was a significant difference between Communication, Character, Guidance, and Gender Composition groups. There was a significant effect of Guidance on Gender Composition at the $p < .05$ level for the three conditions [$Eta^2 = 0.27$, $F(2, 21) = 3.92$, $p = 0.036$]. The results of the test are shown in the Table 8. Meanwhile, there was no significant difference between Communication and Character with Gender Composition.

Table 8. Means of communication, character, guidance and group composition (df=2,21)

Factor	Men Groups		Women Groups		Mixed Groups		F	eta²
	M	SD	M	SD	M	SD		
Communication	30.71	12.78	41.63	26.78	29.00	18.45	0.919	.08
Character	8.14	7.29	9.75	6.11	4.11	2.26	2.44	.19
Guidance	1.57	1.13	3.50	3.16	0.78	1.09	3.92*	.27

*p<.05

The results of the three One-Way ANOVA test done above showed a statistically significant difference in some factors, because of this it was needed to compute a post hoc test. The Tukey Post-Hoc Test was selected to conduct the test. The multiple comparison indicated that there is a significant difference in the factor Guidance between Single Women Groups and Mixed Gender Groups ($p = 0.03$). However, there was no significant difference between the other factors.

4. Discussion

4.1 Main Findings

Clearly there are important and significant differences between the factors and variables of informal leadership identified in the small groups. The hypotheses stated in this paper are answered one by one based on the findings in order to achieve the purpose of the study.

Hypothesis 1: It is possible to identify factors and variables of informal leadership in individuals within small groups during a working time of 15 minutes and establish a relationship among them.

Yes, it is possible. Of the 87 variables and six factors of the original model from Pielstick (2000), a total of 27 variables (see table 4) were identified among five factors (Character, Communication, Guidance, Relationship and Shared Vision). The most common variables with the highest mean were the ones identified in the factor Communication since the activity in the workgroup consisted mainly of composing a group for a specific task, and the participants in the group had to come to a consensus and decide based on given information. This task demanded a high amount of verbal interaction between the individuals. The variables (Likes to have fun and Has a sense of humor) related to the factor Character ranked among the ten most frequently identified, are probably related to the factor

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Communication, because these variables are usually expressed in a verbal way. People show that they have fun or have sense of humor when they tell a joke, or they simply laugh.

The variables that appeared less and had the lowest mean were: Is motivated by higher purpose, Is fair, Receives feedback, Promotes gender equity, Treats everyone with dignity and respect and Uses creative thinking. It is possible that these variables are difficult to identify in a short period of time (15 minutes of group work), and in groups made up of people that did not know each other, so they did not feel comfortable showing some behaviors.

Among the five factors identified in the groups, three factors were selected for the correlation analysis according to the reliability coefficient test (Cronbach's Alpha) performed. The factors Communication, Character and Character are related among them. The correlation between the factors Communication and Character is of $r=0.39$, Communication and Guidance are of $r=0.68$, and Character and Guidance are of $r=0.70$. It is possible to see that the factor Guidance is highly correlated with the factor Communication and Character. This correlation may be because Guidance requires of communication skills to be executed, and it is the way a leader establishes good relationship with the followers. Character may also be strongly correlated with Guidance because it provides unique or distinguished personal characteristics that can foster and increase the behavior of the variables of this factor.

Hypothesis 2: It is possible to identify a correlation between the main informal leadership factors and the number of interventions and behavioral dominance patterns shown by the individuals within the small groups.

It was possible to identify correlations between the factors Communication, Character, Guidance, and Number of interventions in the dialog and the Behavioral Dominance Patterns (Dominance of information sheet (DIS), Dominance of pencil (DPE) and Dominance of decision sheet (DDS) (See Table 5).

The factor Communication is strongly affected by Guidance and the Number of Interventions, since the mechanism to communicate in this group work was through dialogue intervention. DIS is correlated with the Character variables showing that probably the person who takes the information sheet is the one that is going to guide the group during the exercise. The Number of Interventions is strongly correlated with the factor Communication, Character and Guidance, probably because it was the main way to execute the task and

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interact among the participants in order to reach the goal. In general, it is seen that people who intervene in the most are the people who show more variables from the factors Communication, Character and Guidance. The more a person interacts in the dialogue the more these factors will increase. The variables DIS, DPE and DDS are strongly correlated with each other. DIS is highly correlated with Guidance and DDS and in many cases, it was seen that the person who guided the group discussion was the same that had the decision sheet and the information sheet. The variables DPE and DDS showed a strong correlation, which somehow was expected since it was common that the same individual who dominated the pencil dominated also the decision sheet.

Finally, it is possible to say that Communication, Character, Guidance, and Number of interventions in the dialog and the Behavioral Dominance Patterns are correlated, some with a higher significance level than others (see table 5).

Hypothesis 3: It is possible to identify differences between the main informal leadership factors and gender (male / female), group condition (competition goal / cooperation goal) and group composition (only women group / only men group / mixed group) shown by the individuals within the small groups.

It was not possible to identify significant difference between the factor Communication, Character and Guidance with Gender (male / female) (see table 6). Women as men showed a similar amount of variables in each factor. As shown in the study by Eagly and Wood (1991) it is mentioned that there are no overall sex differences either in interpersonal or tasks style. Women and men have the same possibility of showing informal leadership factor, variables, and possibly they even execute a leadership role in a similar way.

It was possible to identify differences between the factors Communication, Character and Guidance with Group Condition (competition goal / cooperation goal) (see table 7). The groups with a cooperation orientation showed more Communication variables, possibly because this situation and condition enabled a more freely, open and relaxed discussion in order to create an environment where all the members could enjoy, participate and have fun. On the other side, the groups with a competition goal could have felt that they had to build a winning group; meaning that they had to make the right choices to form the most accurate group. The condition of the group may have had an influence on the participation of the

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individuals in the task because of the fear of being wrong or uncertain about the decisions that have to be done to achieve the desired goal.

It was possible to identify differences between the factor Communication, Character and Guidance with Group Composition (only women group / only men group / mixed group) (see table 8). The factor Guidance is influenced by the composition of the group. The groups composed by Women showed a higher mean of the variables Guidance in relationship with the other two composed groups (Men Groups and Mixed Group). In the Mixed Groups this difference was not evident, probably because they did not have to stand out among the other members of the same gender, or a way to be polite with other members of the team.

4.2 Conclusions

The purpose of this study was achieved; it was possible to identify the factors and variables of informal leadership in small groups with different gender composition and goal orientation. Behavioral dominance patterns and number of verbal interventions were compared to the main informal leadership factors identified in the workgroups. Among the main variables and factors identified in the small groups, there are some of them that have a higher possibility to appear than other. The factors and variables of informal leadership have the same chance to appear in women as in men. The Communication variables are more like to be shown in individuals in groups with the goal of cooperation as for the goal of competition. The Guidance variables are more like to be shown in individuals in women groups than in men groups and mixed groups. There is a representative correlation between the main informal leadership factors (Communication, Character and Guidance) with the number of interventions and behavioral patterns of the individuals.

4.3 Further Research

The outcomes of the study showed mainly variables related to Communication. Further studies could focus more on a methodology trying to identify more about the other variables. A possible reason why in this study, the Communication variables appeared most often way had been because of the short time of the workshops, and because it mainly consisted of information gathered from the dialog of the individuals in the groups.

The findings of this study gave a different point of view contributing the research done about decision making in small groups at Mid Sweden University. Further research

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could be done in order to understand more the results obtained in this study, as for example, why the groups composed by Women showed a higher mean of the variables in the Guidance factor, in relationship with the other two composed groups (Men Groups and Mixed Group).

Organizations can benefit from informal leadership, because of the influence they have over the rest of the workers. The informal leader is chosen by the people, without the need of a formal position. The main role of an informal leader could support the initiatives of the formal leader, and work together in order to achieve common goals. To obtain the most benefits of informal leaders, they can support the organization by communicating the mission, objectives, decisions, goals and plans to the workers.

Finally, the sample size may be a limitation for broader generalization of the findings; nevertheless, this investigation opens the way to further and complementary studies. The composition of different groups with distinct goals can foster informal leaders, from which formal leaders can learn and improve their own leadership practice.

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