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ABSTRACT

Workplace relationships are significant part of employees' lives, though existing research provides limited evidence regarding specific workplace ties, such as negative and ambivalent ties. First of all, there is still limited understanding how men and women differ in their negative relations in small groups. Most importantly, the literature does not offer insight into how men and women form negative ties in gender-balanced context. Our dynamic dyadic-analysis shows that consistent with social identity theory both men and women are more likely to have difficult ties with opposite-sex team members than same-sex team-members. However, when we consider the effects of having negative ties, i.e. advice seeking and closeness of relationships, we do not observe similar gender-based homophily. Second, despite the importance of ambivalent relationships for employees and organizational outcomes, it is surprising that there is little research devoted to exploring who is selected as the target of ambivalent ties. Asking why some coworkers are chosen as ambivalent ties and others not, could highlight where tensions may arise and whether these relationships can contribute to positive outcomes. Thus, we explore how dependence on someone for leadership as well as help or advice affects the probability for citing the target as an ambivalent tie. At the same time, we explore if having ambivalent relations with a leader or advice provider involves formation of ambivalent perceptions of warmth and competence. Our dyadic analysis revealed that ambivalent relationships tend to be formed with individuals from whom we seek advice or help but not with individuals high on informal leadership. Another important finding is that frenemies high on informal leadership are perceived as more competent but less warm due to upward comparison.

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Chapter 1

Formation of Negative Ties and their Effect on Advice Seeking and Perception of Closeness in Small Groups: Gender Differences

Introduction

Groups in organizations are increasingly becoming more diverse in terms of gender (Triandis et al., 1994). Moreover, striving for gender-balance in organizations has become the “right” way to do business (Frink et al., 2003; Kravitz, 2003) largely due to increased attention to its financial (Dezso & Ross, 2012; Herring, 2009; Lopuch & Davis, 2014; Nishii, 2013; Walker et al., 2012; Wayne & Casper, 2012) and moral (Unzueta & Knowles, 2014) benefits. For instance, in 2015 Google spent \$150 million, Apple spent \$50 million and Intel invested \$300 million to attract more women and minorities (Kelly, 2015). However, despite some evidence of positive effects of gender-balance, almost everything we know is based on what happens in unbalanced groups. Thus, with increasing gender-balance efforts in organizations, there is a need to understand how negative ties form in more balanced groups. Specifically, we lack evidence of how men and women differ in their negative tie formation and how negative ties differently affect men and women in terms of instrumental and affective relationships in gender-balanced groups.

To date most of the studies explore gender differences regarding workplace ties in organizations that tend to be male-dominated, especially at executive level (Blau, 1977; Ibarra, 1992). Such context with fewer senior women determines differences in men’s and women’s positive workplace ties: men are more likely to form both friendship and instrumental relations

with other men, whereas women have to differentiate their networks, preferring women for emotional support, but men for access to instrumental resources (Ibarra, 1992). Similarly, male-dominated environment contributes to the way women and men differ in their negative workplace relations, such as women are more likely (than men) to have negative ties with other women rather than with men due to competition for limited opportunities available to them (Merluzzi, 2017). This evidence confirms predominant view of women as their own worst enemies. However, it is reasonable to expect different behaviors when men and women are placed in equal structural position in the group. In other words, we might observe different patterns of negative relationships within and across gender when both men and women have equal access to group members of both gender and hold equal power in the group.

This study aims to advance the literature on gender differences and negative ties by investigating women's and men's tendencies to form negative ties in gender-balanced groups. Moreover, we contribute to recent research on network evolution by analyzing how gender may affect formation of negative ties. Our dynamic dyadic-analysis shows that both men and women are more likely to have difficult interactions with opposite-sex team members than same-sex team-members. Thus, these results show that, consistent with social identity theory, men and women are more favorable toward their own gender group and more hostile toward the opposite one. However, despite of our predictions, homophily is not important when we consider the effect of negative ties on instrumental and affective relationships. Surprisingly, for women conflict with a female team member is more detrimental than conflict with a male team member, however only in terms of closeness of relationship. In other words, women are more likely to have male frenemies rather than female ones. At the same time, for men conflict with a male team member has more negative implications than conflict with a female team member, though

only in terms of advice and help-seeking. Men are more willing to seek advice from difficult female colleagues rather than difficult male colleagues. In general, our study is making an important contribution to the growing scholarship on social networks and gender diversity by bringing dynamic approach to the study of gender and negative ties in largely underexplored context and showing how negative ties affect other social relations in groups.

Theory and Hypotheses

Negative Ties

Negative ties involve enduring, recurring negative feelings and judgments toward another person (Labianca & Brass, 2006). They comprise a diverse range of social interactions, from gossip, dislike and avoidance to bullying and homicide (Harrigan & Yap, 2017). Negative relationships can be mild or severe, manifested or concealed as well as reciprocated or unreciprocated (Labianca & Brass, 2006).

In organizations, negative relations can have a significant impact on individual's outcomes as it might be difficult to avoid or minimize them when employee's work performance depends on others (Labianca et al., 1998). As a result, employees may experience such negative outcomes as depression, life dissatisfaction and reduced psychological well-being (Hirsch & Rapkin, 1986; Pagel et al., 1987; Rook, 1984). Moreover, they are related to reduced performance, trust and helping behaviors from other individuals as well as increased hindrance behaviors (Venkataramani & Dalal, 2007). When individuals have many negative ties, they are more likely to be dissatisfied with their organization, which consequently leads to lower levels of

organizational attachment (Venkataramani et al., 2013). Casciaro & Lobo (2008) showed that individuals are less willing to seek advice from people they dislike, even when they are competent. Another study by Chua et al. (2008) demonstrated that having negative ties to individuals that are friends with each other is associated with reduced cognitive trust received from others. Centrality in the hindrance network, where others withhold valuable resources from individual, leads to lower in-role and extra-role performance (Sparrowe et al., 2001). Centrality in adversarial network results in the reduced individual satisfaction (Baldwin et al., 1997). At the same time, studies have shown that the effect of negative ties on individual outcomes far more outweighs the effect of positive ties due to higher sensitivity of our cognitive system to negative stimuli rather than positive (Baumeister et al., 2001; Labianca & Brass, 2006; Venkataramani et al., 2013).

Even though network scholars have focused largely on studying liabilities associated with negative ties, factors that impact formation of negative ties have remained largely understudied. Thus, in this study, we are aimed to explore the role of individual-level factor, i.e. gender, in the formation of negative ties.

Negative Ties and Gender

Men and women may differ in the formation of ties due to constraints in their social structure or due to their own choice (McPherson & Smith-Lovin, 1987). The most common structural constraints that foster differences in the way men and women form their network relations are availability of women in high-ranked positions as well as their relative lack of power and opportunities in male-dominated environment (Blau, 1977; Ibarra, 1992). As such, when we

consider positive ties, women are more likely than men to differentiate their networks, building ties with women for emotional support, but with men for access to instrumental resources (Ibarra, 1992). Indeed, given that men possess greater status and resources as well as occupy more high-ranked positions in organizations, women are forced to form ties with men rather than with other women in order to gain access to valued resources and advance in the organization (Brass, 1985; Burt, 1998; Ibarra, 1997; Chatman & O'Reilly, 2004). Men do not show such separation in their relationships, preferring men for both affective and instrumental support. Regarding negative ties, only one study by Merluzzi (2017) showed that in a male-dominated work environment, women are more likely to have difficult relationships with other women compared to men, due to competition for limited advancement opportunities. Results of this study are consistent with research on "queen-bee syndrome". For example, a study by Duguid (2011) showed that token women in high-prestige work groups were reluctant to choose moderately or highly qualified female candidates to join their group. Moreover, the lack of support for highly qualified female candidates was partially mediated by the perception of competitive threat. Thus, being a numerical minority in the work group, women perceive other highly qualified female candidates as a potential replacement for their own position. These studies suggest that gender-biased work environment where women constitute numerical minority has a significant effect on the likelihood of women distancing themselves from other women, blocking other women's advancement as well as disparaging other women's performance.

While these studies provide us with understanding how men and women form their social ties in the demographically skewed organizations where women tend to experience a glass ceiling, it is still not clear what their choices would be in gender-balanced context. Thus, looking

at the men's and women's relationships in the context of groups where men and women are numerically similar and hold equal power could possibly provide understanding of these choices.

Negative Ties within and across Gender in Small Groups

Overall, the impact of gender group composition on women's and men's relationships with both female and male group members corresponds to the predictions of the social identity theory. According to this theory, individuals' social behavior is guided by the need to protect and enhance their self-esteem (Tajfel & Turner, 1985; Tajfel, 1978). When individuals identify with certain group through self-categorization process, they strive to maximize status of this group in order to enhance their self-esteem. Thus, they tend to develop positive opinions about the members of their own group and negative opinions about the outsiders. They engage in stereotyping, exclusion, distancing and degrading members of other group (Tajfel, 1982). Given that women possess lower status as a group in a society, identification with this group might threaten their self-esteem. Therefore, they might start to distance themselves from the members of their own group and develop more positive attitudes toward members of out-groups. However, when proportion of women increases in a size, women obtain more actual or perceived power and potentially higher group status. As a result, women are more likely to favor same-gender members and be hostile toward opposite-gender members.

Indeed, several studies were able to show how gender composition produces different patterns of interactions among women, such as women tend to react more positively toward other women when proportion of women in a group rises. For example, an ethnographic study by Ely (1994) compared the experiences of junior female lawyers working in organizations that have

low representation of senior women to those female lawyers who worked in organizations with more senior women. Drawing on social identity theory, Ely (1994) proposed that women working in male-dominated firms are less likely to maintain positive group identities. Indeed, perceiving lack of advancement opportunities in such context, women tend to have competitive relationships with other women. Moreover, junior female lawyers were less likely to perceive their relationship with female peers as supportive and also were less likely to perceive female partners as legitimate role models. In a follow-up study Ely (1995) showed that women in organizations with fewer women were more likely to describe their female peers as “flirtatious” and “sexually involved with coworkers” compared to women in organizations with higher proportion of women who described their female coworkers as “aggressive” and “able to promote oneself”.

Another study by Izraeli (1983) of local union officers in Israel revealed that women on committees with a small proportion of women were less likely to perceive other women as having necessary leadership qualities compared to women on committees with greater gender balance. Similarly, South and colleagues (1982) in their study of sixth departments in a federal agency found that larger female representation in the department promotes more social contacts among women and as a result more mutual encouragement for advancement.

Similarly, experimental study by Duguid (2011) showed that women’s numerical representation in a work group play a role in their willingness to admit other women into their work groups. Thus, token women were less preferential towards other women compared to female majorities.

Studies have also shown that women react more positively to men when there are few women in a group and react less positively when the proportion of women in a group rises. For example, Ely (1995) showed that female lawyers in organizations with low proportion of women

viewed men as having qualities of successful lawyers and less so in organizations with greater number of women. Similarly, Izraeli (1983) found that women on committees with fewer women were more likely to describe men as possessing good leadership skills compared to women on committees with more women.

Relatedly, research has provided evidence that greater proportion of women in the group ensures more favorable psychological environment for women. For instance, studies showed women feel less constrained by female gender role expectations (Izraeli, 1983), experience less performance pressures and social isolation (Spangler et al., 1978) as well as perform better (Alexander & Thoits, 1985) in more gender-balanced groups. Several studies have also revealed that greater number of women in a group has positive impact on women's evaluation of their own efficacy and performance (Izraeli, 1983; Mellor, 1995; Ely, 1995; Eskilson & Wiley, 1976). In addition, research has indicated that women feel more comfortable, satisfied and less willing to quit the organization when they work in more gender-balanced groups (Chatman & O'Reilly, 2004; Konrad et al, 1992; Burke & Mckeen, 1996; Popielarz & McPherson, 1995).

Applying these arguments to gender relations, I posit that when women are not in minority in the group, they tend to hold positive attitudes and behaviors toward other women and hold negative attitudes and behaviors toward men. Combined with above mentioned evidence, this leads to the following prediction:

Hypothesis 1: Women will be more likely than men to form new negative ties with a man rather than a woman.

While women are more likely to identify with other women when they are not in numerical minority in the group, men always identify with other men even when they constitute numerical minority in the group due to their higher status in society.

Indeed, studies showed that men prefer to work with and for other men (Chatman & O'Reilly, 2004; Elsesser & Lever, 2011) as well as feel happier and experience higher job satisfaction working in more male-dominated environment (Wharton & Baron, 1987, 1991). Similarly, studies by Tsui and colleagues (1992) and Allmendinger & Hackman (1995) found that the fewer men in the group, the lower men's satisfaction and group attachment. Relatedly, Pelled's (1996) study of blue-collar work groups showed that men experienced less emotional conflict when the proportion of men in the group increased.

As for the men's attitude toward women in the group, few studies have been able to show that men are holding less favorable attitudes toward women due to increases in the proportion of women in the group. For example, a study by South et al. (1987) showed that women reported receiving less support from male colleagues as the number of women in the department increased. Additionally, study by Tolbert et al. (1995) found positive relationship between number of women in academic departments and turnover of women, suggesting that it is a result of more conflict with men. At the same time, studies showed that with an increase in the number of women in a group, men report more favorable attitudes toward other men. Specifically, men reported receiving more encouragement for advancement from other men than women did (South et al., 1982), they rated other men as having better leadership skills than women (Izraeli, 1983) and received mentorship from male supervisors (Williams, 1992). Though evidence presented so far is indirect and limited, still, it suggests that greater proportion of women in group has a

negative rather than a positive effect on men's attitudes and behaviors toward women. Taking together, we predict the following:

Hypothesis 2: Men will be more likely than women to form new negative ties with a woman rather than a man.

Negative, Advice and Close Ties

So far, our predictions suggest that when women involve in difficult relationships in gender-balanced groups, they are more likely to form negative ties with opposite-sex team members rather than same-sex ones. Unlike groups where women are in distinct minority, in gender-balanced groups women perceive more power and as a result develop more positive attitudes toward other women and negative attitudes toward men. Similarly, due to categorization processes, men are more likely to form negative ties with women than with men.

As it was mentioned before, negative ties are associated with significant liabilities. Specifically, when employees are involved in negative interactions, they risk getting lower evaluations of individual performance (Grosser et al., 2010). Similarly, disliked employees are less likely to be approached for advice even when they are perceived as competent (Casciaro & Lobo, 2008). Indeed, literature suggests that we bear significant social and psychological costs when we seek help or advice as we appear incompetent (Karabenick & Knapp, 1988; Lee, 1997), powerless (Lee, 1997), or inferior (Ames & Lau, 1982) as well as accept dependence on others (DePaulo & Fisher 1980; Druian & DePaulo, 1977). Constant tension between instrumental benefits and psychological costs of seeking help or advice might contribute to subsequent tension

in a relationship between advice-seeker and advice-provider. In order to reduce this tension, individuals are more likely to seek advice from people that we have positive relationship. Besides instrumental ties, difficult interactions undermine development of close relationships as it reduces liking and trust among partners (Fingerman et al., 2004).

While all individuals suffer consequences of negative interactions, we still might observe gender differences regarding liabilities of negative ties. We believe that the conflict will be more detrimental for opposite-sex team members rather than same-sex team members in terms of instrumental and affective relationships between them. Indeed, when individuals hold negative attitudes toward another person, gender-based homophily will mitigate these attitudes by facilitating more trust and communication (Ibarra, 1992). As a result, team members will seek help or advice from same-sex team members rather than from opposite-sex team members with whom they have difficult interactions. Similarly, team members will have close relationships with same-sex members rather than with opposite-sex members that they have conflict with. This leads to our last predictions:

Hypothesis 3: Women will be more likely to have (a) advice and (b) close ties with a woman with whom they hold negative tie rather than with a man with whom they hold negative tie.

Hypothesis 4: Men will be more likely to have (a) advice and (b) close ties with a man with whom they hold negative tie rather than with a woman with whom they hold negative tie.

Methods

Sample and Data

We tested our hypotheses using study groups of first year master students. Of course, studies of master students lack the external validity to generalize from this setting to other organizations. However, we are able to compensate for this limitation by observing the formative phase of network ties. Therefore, a new class of master students with few prior relationships is an ideal setting for studying how gender shapes the emergence of negative ties.

We collected data from a sample of 164 master students taking a general management course at a large-size European university over a three-month period. Students were assigned to teams of 4 to 6 people using a quasi-random process in order to create diversity within each team. We collected data from 32 teams at two points in time: two weeks after the team formation (Time 1) and one month after the first round of data collection in the middle of the final project (Time 2). For our analyses, we included only teams that had at least 2 responses for both time 1 and time 2. Thus, final sample consisted of 109 students allocated to 29 groups. Forty four percent of the respondents were female and most of them were Caucasian (85% rate). The average age of team members was 22 years ($SD = 1.34$).

Most of the groups (83%) were gender-balanced, i.e. with proportion of women ranging from 40% to 60%; few groups (10%) were male-tilted, where proportion of women is 33%; the remaining groups (7%) comprised distinct minorities or “tokens” (Kanter, 1977).

We used one-item questions to analyze negative ties, consistent with norms in social network studies (Labianca et al., 1998). To measure negative, advice and affective ties, in an online survey students responded to the following questions (adapted from Baldwin et al., 1997;

Podolny & Baron, 1997):

Negative ties (Time 1 and 2): How often have you had difficult interactions with this person (disagreements, tension, lack of consideration, rudeness) (during previous 1 month)? (1 = *never*, 2 = *once*, 3 = *a couple of times*, 4 = *often*, 5 = *almost always*). Thus, this measure captures actual difficult interactions that occurred in the group. We dichotomized measure of negative ties at values greater than or equal to 2, indicating that interpersonal relations between team members involve difficulties.

Advice ties (Time 2): How often have you sought school-related help or advice from this person (during previous 1 month)? (1 = *never*, 2 = *rarely [1–2 times]*, 3 = *occasionally [3–5 times]*, 4 = *frequently [6–9 times]*, 5 = *very frequently [>9 times]*). We dichotomized measure of advice ties at values greater than or equal to 2, indicating that team members go to each other for advice.

Affective ties (Time 2): How close is your relationship with this person? (1 = *not at all close*, 2 = *not very close*, 3 = *somewhat close*, 4 = *quite close*, 5 = *extremely close*). We dichotomized measure of affective ties at values greater than or equal to 4, indicating that team members share close relationship.

Measures. To test the Hypothesis 1 our dependent variable is *formation of a negative tie with a male group member at time 2* that equaled 1 if respondent cited difficult interaction with a male group member that happened *once, a couple of times, often, or almost always*, 0 otherwise (i.e., *never* happened with anyone or happened with a female group member). Accordingly, to

test the Hypothesis 2, our dependent variable is *formation of a negative tie with a female group member at time 2* that equaled 1 if respondent cited difficult interaction with a female group member that happened *once, a couple of times, often, or almost always*, 0 otherwise (i.e., *never* happened with anyone or happened with a male group member). Finally, to test Hypothesis 3a and 4a our dependent variable is *advice or help seeking tie at time 2* that equaled 1 if respondent sought school-related help or advice from other person *rarely [1–2 times], occasionally [3–5 times], frequently [6–9 times], very frequently [>9 times]*, 0 otherwise (i.e., *never*) and to test Hypothesis 3b and 4b is *close tie at time 2* that equaled 1 if respondent considered relationship with other person *quite close or extremely close*, 0 otherwise (i.e., *not at all close, not very close, somewhat close*).

Our independent variable for the Hypotheses 1 is *gender of the respondent (female)* and for the Hypothesis 2 *gender of the respondent (male)*. To test the Hypotheses 3 and 4, our explanatory variable is an interaction of *gender of the respondent (male/female)* and *negative tie at time 2*.

Controls. Earlier studies showed that demographic characteristics (McPherson & Smith-Lovin, 1987) may affect formation of social ties. Thus, we controlled for age in years, gender of alter (coded 0 for male and 1 for female) and race (coded 0 for white and 1 for nonwhite). We also control for team characteristics such as team size and proportion of women in a team.

We account for possibility that some team members knew each other before joining the team, thus we asked respondents to indicate whether they knew each other prior to joining the team. Results of the survey revealed that only few respondents knew other team members (20 directed dyads out of 312 or 6%), thus we do not control for this either. One respondent failed to

answer the question, however in the following survey he reported that the amount of time they knew each other was not more than one month.

Dyad-level analysis. We test our hypotheses at the dyad-level of analysis (312 directed dyads). We explore the formation of a negative tie between members of the dyad (i.e., when ego sends a tie to alter) at time 2, controlling for the state of tie at time 1. In order to observe formation of tie at time 2, we include only those dyads in which both dyad members report *no tie at time 1* or in which alter cites *unreciprocated tie at time 1*. Thus, final sample consisted of 272 directed dyads. We control for *reciprocity over time* when ego sends unreciprocated tie at time 1 and alter reciprocates this tie at time 2.

Within this final sample, at time 1, alters send 32 negative ties (12%) to egos and, at time 2, egos send 49 negative ties (18%) to alters. Looking at negative ties, at time 2, most happened between female ego and male alter (39%), followed by male ego and female alter (31%), male ego and male alter (22%) and female ego and female alter (8%). As of advice ties, at time 2, least occurred between female ego and female alter (16%), with the rest almost evenly split between male and across gender dyads (i.e., female ego and male alter (29%), male ego and male alter (28%) and male ego and female alter (27%). Regarding affective ties, at time 2, most occurred in all male and male-female dyads (29% each), followed by female-male dyads (25%) and all female dyads (17%).

As our dependent variables are binary measures of existence of a tie between two actors, we use logistic regression. By using this type of regression, we predict probabilities of the formation of a negative tie at time 2 with male/female team member (H1, H2). To test Hypotheses 3 and 4 we split the sample two times leaving only female or male ego.

Considering that each actor can participate in multiple dyads, we need to control for the non-independence of the individuals within the dyads. Traditional approaches will underestimate standard errors and inflate significance of our results. Thus, we need to estimate our models clustering on both dyad members and dyad itself. We use approach that was theoretically developed by Cameron et al. (2001) and applied for Stata through `clus_nway` command (Kleinbaum et al., 2013). This approach is similar to more traditional ones, such as quadratic assignment procedure (QAP) exponential random graph models (ERGMs) (Cameron et al. 2011).

Results

Hypothesis 1 posits that women compared with men are more likely to form negative ties (at Time 2) with male team members rather than with female team members. Model 1 (Table 2) indicates that this effect is positive and significant ($p < 0.01$). Model 1 also shows positive and significant effect ($p < 0.01$) of reciprocating negative tie with a man rather than with a woman. Figure 1 shows marginal probabilities of 0.17 for women compared to 0.07 for men to form negative ties with a man.

 Insert Table 2 and Figure 1 about here

In Model 1 (Table 3), we find support for Hypothesis 2. Results indicate positive and significant effect ($p < 0.05$) for men (compared with women) to form negative ties (at Time 2)

with women (compared with men). Figure 2 depicts marginal probabilities of 0.11 for men compared to 0.03 for women to form new negative ties with a woman.

 Insert Table 3 and Figure 2 about here

Finally, we do not find support for our Hypotheses 3 and 4 (Table 4 and 5). Surprisingly, Model 2 (Table 4) shows positive and significant effect ($p < 0.01$) of women perceiving close relations with opposite-sex team members rather than with same-sex members with whom they hold negative ties. Moreover, Model 1 (Table 5) shows positive and significant effect ($p < 0.01$) of men seeking help and advice from opposite-sex team members rather than same-sex members with whom they hold negative ties.

 Insert Table 4 and Table 5 about here

Additional analysis

We conducted additional analysis that might further inform our results. We were interested if women will be less likely than men to form new negative ties (at Time 2). In Model 1 (Table 6), controlling for reciprocity over time, we do not find support for this ($p = 0.83$).

However, this effect was negative, confirming expectation that women are more relationship oriented and will try to avoid conflicts. Figure 3 visually depicts marginal probabilities of negative tie formation for a woman compared with a man at time 2. Probability for a man to form negative ties (0.19) is a little bit higher, though not statistically significant, compared with probability for a woman to form negative ties (0.17). Model 1 also shows positive and significant effect of reciprocating negative tie over time ($p < 0.01$). Thus, negative ties are more likely to be formed when they reciprocate existent ties. In general, our results are consistent with previous findings that men and women do not differ statistically in their propensity to cite negative ties. Moreover, we show that this effect stays robust even in different context.

 Insert Table 6 and Figure 3 about here

Discussion

Research has provided substantial evidence that gender inequality produces difficulties in relations among women. For instance, studies have found that when women are a distinct minority, they are more likely to have competitive relations with other women, to actively derogate their career advancement and more likely to cite a woman as a negative tie (Ely, 1994; Duguid, 2011; Merluzzi, 2017). However, relatively little is known about difficult relations within and across gender when they have equal access to the team members of both sexes and when power is equally distributed among men and women in a group.

Results of our study suggest that, free of structural constraints and power inequality, women and men are more likely to form negative ties with opposite-sex team members rather than same-sex team members. Consistent with social identity theory, when women are not a numerical minority in their group, they are more likely to have conflict with a man rather than with a woman. For men, a gender-balanced context exacerbates men's negative attitudes toward women compared to men.

Surprisingly, we do not find support for our predictions regarding consequences of having negative ties. Results of the analysis showed that for women conflict with a female team member is more detrimental than conflict with a male team member, however only in terms of closeness of relationship. In other words, women are more likely to have male frenemies rather than female ones. One possible explanation for this finding is that women have higher standards for the same-sex relationships, because of their greater desire for intimacy (Benenson et al., 2009). At the same time, for men conflict with a man has more negative implications than conflict with a woman, though only in terms of advice and help-seeking. Men are more likely to seek advice from difficult female colleagues rather than difficult male colleagues. This could be explained by the fact that women compared to men pose lower threat to men's self-esteem due to lower status in a society. Thus, it seems that gender-based homophily does not lessen negative effects of the same-sex conflict compared to opposite-sex conflict. At the same time, we see that women bear consequences only in terms of closeness of relationships and men in terms of work relationships. This could be explained by the fact that in the groups women tend to be relationship oriented, while men tend to be agentic and focused on obtaining instrumental resources.

Overall, our study suggests that gender balance in teams is a double-edged sword. It is likely to create tensions between opposite sexes in small teams that will lead to different negative

individual outcomes extensively reported in previous studies. However, at the same time, we found that opposite-sex difficult colleague is more desirable provider of needed instrumental and affective resources than same-sex difficult colleague is. Thus, opposite sex can serve as an alternative source of resources in situations when there is a conflict among same sex colleagues.

Another important finding of our additional analysis is that women are not less likely than men to form negative ties in the group. Even though women are socialized to be more relationship-oriented, while men are socialized to be more aggressive and competitive, these internalized gender roles does not shape women's and men's propensity to form negative ties.

In general, our findings make an important contribution to the literature on negative networks and gender diversity. Our study broadens our understanding of workplace relationships by highlighting where conflicts may arise within and across gender when there are no organizational constraints or power inequality. Moreover, results of the study have managerial implications, considering that most organizations strive for gender diversity when they create work groups. Specifically, managers should take into account that in gender-balanced groups, we do not observe the same female-female conflict that occurs in male-dominated environment. Moreover, women have no issues working together even when they have difficult relations. Considering how overproblematized female-female conflict, our findings lessen this negative perception of conflict among women at work. At the same time, our findings suggest that men bear significant costs when they involve in difficult relations. When they seek help or advice, they tend to avoid same-gender difficult colleagues more than opposite-gender colleagues, narrowing their opportunities for advancement at work. Thus, managers should not only focus on trying to eliminate gendered conflict in teams, but pay attention to how it can undermine other relations among colleagues.

Of course, this research has some limitations. Our sample of master students may lack external validity making it difficult to generalize our findings to a broader population. In a work setting, there might be different expectations and norms of forming ties. However, we believe that our specific design of the study allows us to compensate for this weakness as we are able to observe the formation of network that will never happen in real companies. Another limitation of our study is that we do not consider the intensity of conflict. It might be possible that couple of difficult interactions will not produce the same negative outcomes compared to more frequent conflict situations. Future studies should investigate different range of negative ties using study groups that work for long periods of time.

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TABLES

Table 1 Descriptive Statistics and Correlations (272 dyads)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Female (ego)	.43	.50	1.00								
2. Age (ego)	22.38	1.33	.04								
3. Non-white (ego)	.15	.35	.19**	.18**							
4. Form a negative tie with a man (Time 2)	.11	.31	.15*	-.06	-.05						
5. Form a negative tie with a woman (Time 2)	.07	.26	-.12*	-.02	.13*	-.10					
6. Negative tie send by alter (Time 1)	.12	.32	.01	.03	.01	.24**	.12*				
7. Advice (Time 2)	.64	.48	.07	-.06	.06	-.12*	.03	.02			
8. Close (Time 2)	.26	.44	-.01	-.09	-.04	-.08	-.13*	-.06	.35**		
9. Team size	5.1	.49	-.02	.04	-.08	.00	-.08	.07	.20**	.10	
10. Proportion of women	.41	.09	.20**	.11	.06	-.04	.05	.02	-.01	.04	-.2**

** $p < 0.01$, * $p < 0.05$

Table 2 Logistic Regression Models of Negative Tie Formation with a Man Over Time

VARIABLES	Model 1
Female ego	1.156** (0.409)
Negative tie send by alter (Time 1)	1.825** (0.528)
Age ego	-0.121 (0.179)
Non-white ego	-0.709 (0.664)
Age alter	0.200 (0.155)
Non-white alter	-0.460 (0.789)
Team size	-0.177 (0.577)
Proportion of female	-3.071 (1.919)
Constant	-2.520 (6.036)
Observations	272

** p<0.01, * p<0.05, + p<0.1

Table 3 Logistic Regression Models of Negative Tie Formation with a Woman Over Time

VARIABLES	Model 1
Male ego	1.587* (0.751)
Negative tie send by alter (Time 1)	1.114 (0.751)
Age ego	-0.211 (0.292)
Non-white ego	1.514* (0.694)
Age alter	-0.484 (0.351)
Non-white alter	0.848 (0.661)
Team size	-0.482 (0.616)
Proportion of female	2.908 (2.897)
Constant	12.24 (10.47)
Observations	272

** p<0.01, * p<0.05, + p<0.1

Table 4 Logistic Regression Models Predicting the Effect of Negative Ties (Female ego subsample)

DV:	Only Female ego Advice Tie	Only Female ego Close Tie
Negative tie send by ego x Male alter	0.345 (1.278)	15.14** (1.065)
Negative tie send by ego Male alter	-0.971 (1.353)	-15.26** (0.697)
Age ego	0.285 (0.463)	-0.523 (0.506)
Non-white ego	0.0751 (0.186)	-0.166 (0.252)
Age alter	-0.00156 (0.513)	-0.604 (0.642)
Non-white alter	-0.314* (0.149)	-0.297+ (0.153)
Team size	1.312* (0.582)	0.485 (0.550)
Proportion of female	0.722 (0.554)	0.680 (0.594)
Constant	1.366 (3.232)	-0.0416 (2.947)
	1.613 (4.925)	6.257 (6.552)
Observations	116	116

** p<0.01, * p<0.05, + p<0.1

Table 5 Logistic Regression Models Predicting the Effect of Negative Ties (Male ego subsample)

DV:	Only Male ego Advice Tie	Only Male ego Close Tie
Negative tie send by ego x Female alter	2.698** (0.852)	-0.670 (1.418)
Negative tie send by ego	-1.672* (0.663)	-1.498 (1.090)
Female alter	-0.605 (0.399)	-0.0434 (0.426)
Age ego	-0.510* (0.233)	-0.371 (0.242)
Non-white ego	0.517 (0.829)	0.970 (0.735)
Age alter	-0.0357 (0.148)	-0.154 (0.177)
Non-white alter	-0.329 (0.552)	-0.419 (0.615)
Team size	1.485** (0.558)	0.603 (0.450)
Proportion of female	0.692 (2.416)	3.319 (2.737)
Constant	5.173 (6.860)	6.469 (7.059)
Observations	156	156

** p<0.01, * p<0.05, + p<0.1

Table 6 Logistic Regression Models of Negative Tie Formation Over Time

VARIABLES	Model 1
Female ego	-0.0973 (0.447)
Negative tie send by alter (Time 1)	1.790** (0.489)
Age ego	-0.161 (0.170)
Non-white ego	0.373 (0.554)
Same gender	-0.688+ (0.383)
Female alter	-0.479 (0.392)
Age alter	0.0110 (0.155)
Non-white alter	0.302 (0.516)
Team size	-0.327 (0.450)
Proportion of female	-0.219 (2.071)
Constant	3.566 (5.708)
Observations	272

** p<0.01, * p<0.05, + p<0.1

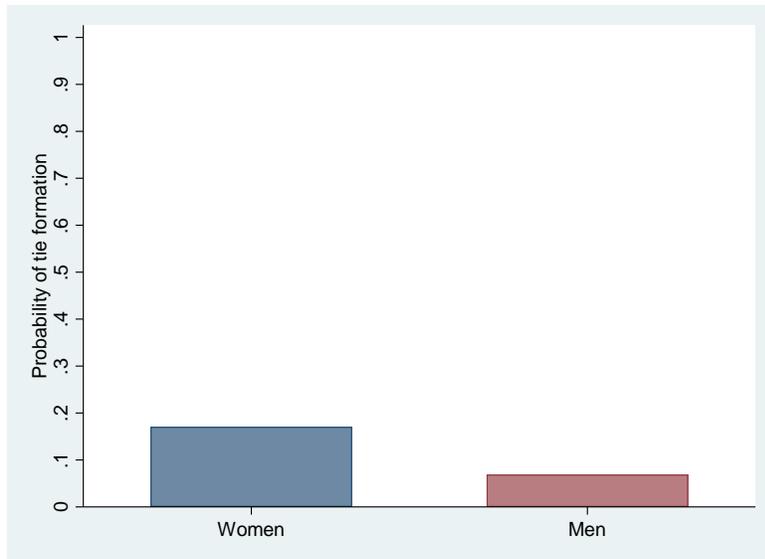
FIGURES**Figure 1 Marginal probabilities of Negative Tie Formation with a Man for a Female Team****Member Over Time**

Figure 2 Marginal probabilities of Negative Tie Formation with a Woman for a Male Team Member Over Time

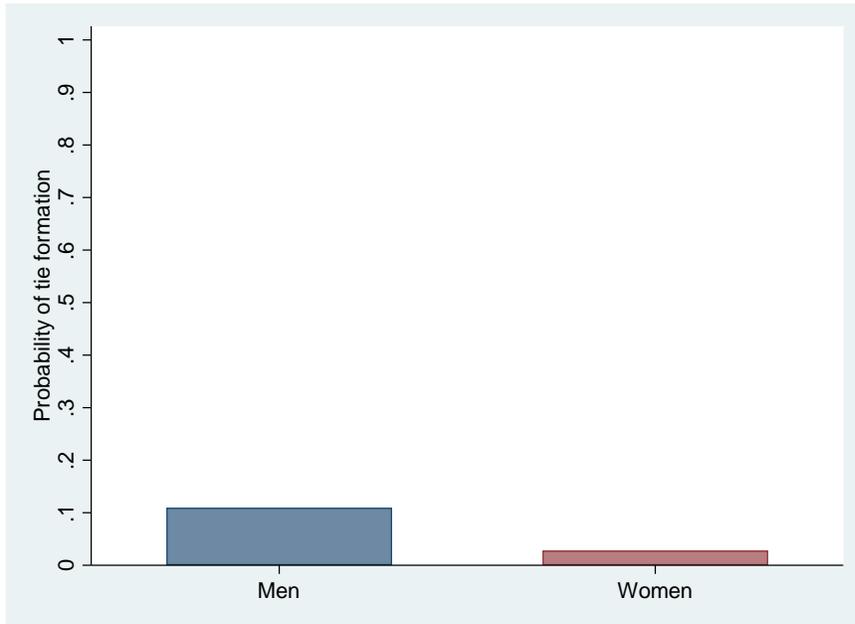
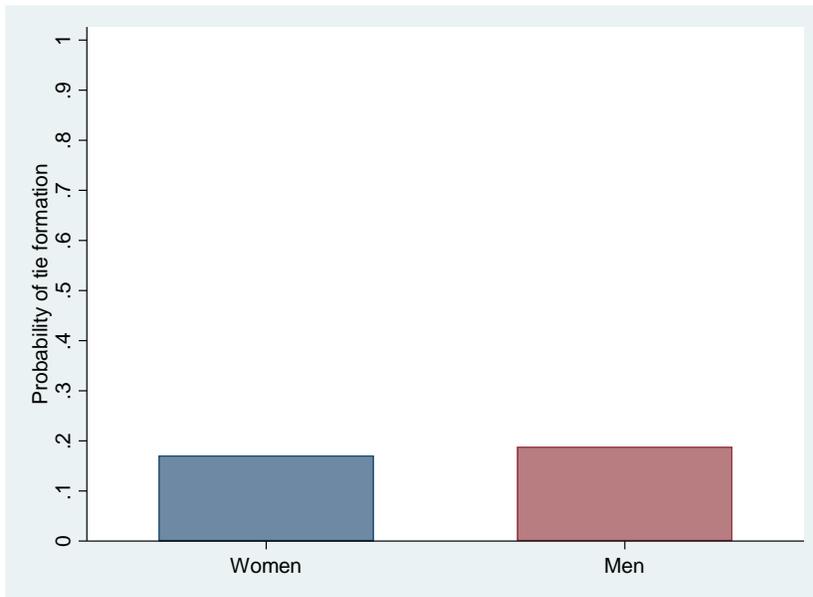


Figure 3 Marginal probabilities of Negative Tie Formation for a Female Team Member Over Time



Chapter 2

Who are the Targets of Ambivalent Ties in Small Groups? A Social Network Perspective

Introduction

Today's collaborative and information-oriented environment substantially contributes to the development of the connections among employees. As working week has almost reached 60 hours, constant interactions are becoming inevitable reality of the workplace (Miller & Miller, 2005). Thus, relationships among employees are becoming a crucial part of workplace context that in turn have the ability to define this context by influencing individuals' feelings, perceptions and actions and subsequently contribute to organizational outcomes (Schneider, 1987; Kahn, 2007; Chiaburu & Harrison, 2008; Ferris et al., 2009). At the same time, acknowledgement of the importance of workplace relationships stimulated abundant research in this area, positioning work relationships at the center of the management literature (Dutton & Ragins, 2007).

However, existing research on workplace relationships tend to place all relationships along two ends of spectrum from positive to negative. Most of the time scholars position positive and negative relationships against each other, characterizing them as supportive or hostile (Chiaburu & Harrison, 2008), life giving or life exhausting (Dutton & Heaphy, 2003), energizing or de-energizing (Cross et al., 2003), beneficial versus dysfunctional (Ragins et al., 2000), or friends versus enemies (Morrison & Wright, 2009; Sherf & Venkataramani, 2015). However, considering relationships as either positive or negative is avoiding the reality that most of the relationships are much more complex. For instance, ambivalent relationships, that are

simultaneously positive and negative, are widespread and comprise around half of all important connections at the workplace (Fingerman, 2009; Uchino et al., 2004; Melwani & Rothman, 2015). However, despite evidence of the existence of ambivalent relationships, they are still largely understudied, especially in workplace contexts. Moreover, limited evidence suggests that ambivalent relationships have important functional workplace outcomes. For instance, employees who experience emotional ambivalence are more cognitively flexible, that improves their ability to consider different perspectives (Rothman & Melwani, 2017). At the same time, employees in ambivalent relationships are better at cooperation and dealing with competition, more motivated to improve performance and organizational relationships, as well as they tend to enhance information exchange and show higher job performance (Ingram & Roberts, 2000; Zou & Ingram, 2013; Rothman & Melwani, 2017). Despite positive outcomes, ambivalent ties are also associated with increased stress, envy and guilt (Uchino et al., 2007; Melwani & Rothman, 2015) as they are highly unpredictable.

Despite the importance of ambivalent relationships for employees and organizational outcomes, it is surprising that there is little research devoted to exploring who is selected as the target of ambivalent ties. Asking why some coworkers are chosen as ambivalent ties and others not, could highlight where tensions may arise and whether these relationships can contribute to positive outcomes. Thus, we explore how dependence on someone for leadership as well as help or advice affects the probability for citing the target as an ambivalent tie. At the same time, we explore if having ambivalent relations with a leader or advice provider involves formation of ambivalent perceptions of warmth and competence. We focus on warmth and competence because they are two main universal dimensions which people use to evaluate and judge others (Fiske et al., 2006; Fiske, 2012; Cuddy et al., 2011) and they account for 82% of the variance in

perceptions of everyday behavior (Wojciszke et al., 1998). At the same time, competence and warmth perceptions have the ability to inform whether individuals will interact with the target of evaluations and what resources they will seek from him or her.

This paper investigates dyadic relationships of master students in small study groups using social network analysis. We focus on ambivalent ties that comprise both closeness and difficult interactions, thus we do not limit ourselves to specific ambivalent relationships such as competition between friends. Instead, we are aimed to explore wider range of possible relations. We begin with a review of ambivalent relations, factors that influence them and consequences of these relations. Then, we theorize how leaders and advice/help providers can become ambivalent ties due to upward comparison. Finally, we argue that ambivalent ties with leaders and advice/help providers involve ambivalent cognitions of warmth and competence eliciting envious emotions. Overall, our findings contribute to our understanding of dyadic sources of ambivalence.

Theory and Hypotheses

Ambivalent Relationships

Ambivalent relationships involve both negative and positive feelings toward a relational partner and characterized by tension and conflict (Bushman & Holt-Lunstad, 2009; Melwani & Rothman, 2015) that can take many forms such as competitive friends (Ingram & Roberts, 2000), blended relationships (Bridge & Baxter, 1992), competent jerks and lovable fools (Casciaro & Lobo, 2008). While there are plenty of studies on purely positive or negative relationships,

ambivalent ties are largely understudied phenomenon, particularly in workplace contexts (Methot et al., 2016; Pratt & Doucet, 2000).

Still, there is substantial evidence that people have ambivalent relationships in organizations, though some research does not define relationships as ambivalent. In studies of undergraduate students and community samples, individuals describe their networks as consisting of ambivalent ties, where number of ambivalent ties is comparable to positive ones and exceeds negative ones (Fingerman et al., 2004; Uchino et al., 2004). Similarly, at the workplace, people hold mixed feelings toward their work groups and organizations (Kreiner & Ashforth, 2004; Sluss & Ashforth, 2007), mentors are both proud and threatened by their protégés (Eby et al., 2010), employees can have ambivalent feeling toward their customers (Pratt & Doucet, 2000), managers (Ingram, 2015; Lee et al., 2015), colleagues (Zou & Ingram, 2013) and friends (Ingram & Zou, 2008). For example, Pratt & Doucet (2000) showed how employees feel ambivalently toward managers who have high expectations for them but also provide support as well as toward customers whom they are happy to help but also who slow down their productivity. Relatedly, Zou & Ingram (2013) provided evidence that the workplace breeds friendships as well as competition among friends as an unavoidable reality of work.

How relationships become ambivalent between work partners? Literature suggests that at the dyadic level ambivalent relations tend to form due to “coexistence of conflicting norms, expectations, goals or roles; perceived similarity; and interpersonal familiarity” (Methot et al., 2017:1798). Specifically, in work relationships, individuals have to balance professional norms (e.g., impartiality, confidentiality) with personal norms (e.g., favoritism, acceptance) that subsequently bring ambivalent feelings. Moreover, the same forces that bring people closer to each other contribute to the competition due to redundant resources and information (Zou &

Ingram, 2013). Zou and Ingmar (2013) showed that managers are more likely to cite their friends as also competitors when they are similar in terms of gender, rank and network composition and configuration. Similarly, mentors are likely to feel ambivalent toward protégés who were able to gain peer status compared to those who were not (Kram, 1983). Intense closeness can also evoke ambivalence (Bridge & Baxter, 1992; Thompson & Holmes, 1986), as “commitments are about ambivalence” (Brickman, 1987: 15) and “familiarity breeds ambivalence” (Brooks & Highhouse, 2006), as well as relationships that are difficult to end, such as a supervisor-subordinate relationship (Merton & Barber, 1963).

Regarding the consequences of ambivalent relationships, research provides limited evidence. Existing research shows that ambivalent relationships are associated with increased feelings of stress (Uchino et al., 2007), as well as feelings of trust, empathy and sympathy toward the partner (Ingram & Zou, 2008; Pratt & Pradies, 2011). Partners are also willing to show commitment in ambivalent relationship, accepting both its inherent costs and benefits (Brickman, 1987; Bushman & Holt-Lunstad, 2009). Another study showed that when leader and follower experience psychological ambivalence within complex situations they are able to produce mutually functional outcomes (Guarana & Hernandez, 2015). Similarly, experimental study by Melwani and Rothman (2015) showed that ambivalent relations bring such positive outcomes as an engagement in perspective-taking and motivation to succeed in tasks and organizational relationships. However, ambivalent relationships were also related to more time spent reflecting and feeling envy and guilt.

Ambivalent Relationship as a Consequence of Upward Comparison

Leadership is an emergent process that determines group's goals, motivates members to achieve these goals and influence group environment (DeRue et al., 2015; DeRue et al., 2011; Yukl, 1981). Leadership depends on the perceptions of the person that can be shaped by different factors such as context of the group or preexisting leadership expectations (Lord et al., 1984). In work group context, people view cognitive intelligence as a main factor in an individual or group success and, at the same time, they expect that leader will succeed at different group's tasks (Berger et al., 1972; Van Vugt, 2006; Meindl et al., 1985). Thus, behaviors that signal cognitive ability and intelligence are most likely to be associated with leadership evaluations (Driskell et al., 1993). For example, research shows that in functional or specific task-oriented groups, perceptions of intelligence are more closely related to leadership ability than targets' dominant behaviors.

However, even though people are instrumental in the way they perceive someone as a leader, research shows that socio-emotional abilities are also highly predictive of leadership categorizations. For example, empathy relates to the leadership ability through its effect on emotional and cognitive skill and behaviors (Wolff et al., 2002). Another study showed that combination of emotion recognition and extraversion is associated with the target's task-oriented behaviors that in turn predicts leadership emergence (Walter et al., 2012). Relatedly, meta-analytical study found evidence for the importance of social skills (Ensari et al., 2011). Study by Porath and colleagues (2015) found that people who are perceived as civil are more likely to be seen as leaders, indicating that politeness and regard for others are new valuable factors in leadership categorizations. They showed that civility predicts leadership ability through perceptions of warmth and competence that also tied to the experience of positive emotions.

Indeed, literature provides evidence that when people experience positive emotions, they tend to

make more favorable evaluations of others (Forgas & Bower, 1987). On the contrary, when individuals feel negative affect, they are more likely to have less favorable judgments about others (Baron, 1987). Similarly, in the group context, Simons & Peterson (2000, p. 103) argued that “relationship conflict encourages antagonistic or sinister attributions for other group members’ behavior”. Relatedly, study by Xin & Pelled (2003) provided empirical evidence that when subordinates are experiencing emotional conflict with their supervisors, they perceive them as lacking some leadership abilities.

In sum, there is strong evidence that favorable evaluations of leadership abilities are associated with positive relations, while less favorable evaluations are associated with negative ones. However, is it possible that when we choose leaders based on positive evaluations, we might still develop ambivalent relations rather than positive ones? Specifically, when we perceive someone as a leader, would it be plausible that we are more likely to cite him or her as an ambivalent tie, experiencing closeness and affect in the relationship as well as the interpersonal conflict?

We argue that relationship with an informal leader might be neither positive nor negative, but both, due to perceived status differences. Indeed, there is limited evidence suggesting that individuals are likely to have ambivalent relationships with the ones that pose a threat to their self-esteem. For example, study by Zou and Ingram (2013) showed that managers tend to compete with their friends when they are more similar in terms of gender, rank and social networks. These similarities can also result in more threat to the self-esteem when partner is more successful (Tesser & Campbell, 1982; Tesser et al., 1988; Tesser et al., 1989). Another study by Kram (1983) showed that mentors are more likely to develop ambivalent relations with protégés who gain peer status compared to those who stayed lower status. Likewise, when we perceive our

partner as an informal leader, we tend to develop ambivalent relations as his or her informal status and prestige or power over others in the group can make us feel inferior. Indeed, studies using psychoanalytical approach showed that one emotion leadership is most likely to evoke is an emotion of envy (Kernberg, 1985; Kreeger, 1992; Main, 1985; Obholzer, 1994; Stein, 1995; 1996). Such feeling is most likely to be experienced when someone is dependent on the other, i.e. when follower depends on the skills and abilities of the leader. At the same time, research investigating consequences of envy points to the fact that envious feelings relate to the relationship conflict (Eissa & Wyland, 2016). Taken together, this leads to our first prediction:

Hypothesis 1: Group members are more likely to cite ambivalent tie (compared to positive tie, negative tie or no tie) with the group member whom they evaluate as high on informal leadership in a group.

Of course, besides informal leadership, there are other sources of comparison and competition in the group. For instance, when we are highly dependent on others' help or advice, we are likely to experience threat to our self-esteem (Nadler, 1997).

Indeed, literature suggests that we bear significant social and psychological costs when we seek help or advice as we appear incompetent (Karabenick & Knapp, 1988; Lee, 1997), powerless (Lee, 1997), or inferior (Ames & Lau, 1982) as well as accept dependence on others (DePaulo & Fisher 1980; Druian & DePaulo, 1977). Constant tension between instrumental benefits and psychological costs of seeking help or advice might contribute to subsequent tension in a relationship between advice-seeker and advice-provider. In order to reduce this tension, we are more likely to seek advice from people that we have close or friendly relationship. However,

considering that we are also more likely to be threatened by friends' success than by that of strangers (Tesser & Campbell, 1982; Tesser et al., 1988; Tesser et al., 1989), we might end up feeling equally insecure if not more. As such, advice-seeker will develop ambivalent relationship with advice-provider, characterized by affective closeness as well as interpersonal conflict. As in the case with leadership, we contend that envious feelings born in a relationship between advice-seeker and advice-provider will trigger relationship conflict. This leads us to our second prediction:

Hypothesis 2: Group members are more likely to cite ambivalent tie (compared to positive tie, negative tie or no tie) with the group member to whom they more frequently go for advice or help.

Ambivalent Relationship and Ambivalent Attributions of Warmth and Competence

The Stereotype Content Model suggests that perceived warmth and competence are two main universal dimensions of stereotypes people use to evaluate and judge others (Fiske et al., 2006; Fiske, 2012; Cuddy et al., 2011), thus it is useful framework to understand how individuals perceive ambivalent ties.

Warmth dimension reflects such traits as “friendliness, helpfulness, sincerity, trustworthiness and morality” and relates to perceived intent of a person: is an individual a friend who can help or an enemy who can hurt? Competence dimension is associated with such traits as “intelligence, skill, creativity and efficacy” and relates to perceived ability of a person to act on his or her intent.

There are individuals that tend to receive high or low evaluations on both dimensions (van Dijk et al., 2016). For instance, individuals who are perceived as both warm and competent are ingroup members and its allies and cultural default (e.g., Whites, Christians, middle-aged). Moreover, as stereotypes tend to bring out emotions, high competence and warmth perceptions evoke emotions of admiration and pride. However, when individuals are stereotyped as cold and incompetent, they are more likely to be seen as a threat to the society and unable to pursue their goals (e.g., homeless people, Fiske et al., 2002). Accordingly, emotions that people experience towards those low in competence and warmth are contempt and disgust.

Individuals can also receive low evaluations on one dimension and high evaluations on another one (van Dijk et al., 2016). Thus, they can be judged as either warm but incompetent (paternalistic stereotype) or competent but cold (envious stereotype). These stereotypes are called as ambivalent stereotypes and mostly attributed to the outgroup members. Research shows that paternalistic stereotypes are attributed to the Black people (Katz & Hass, 1988), older people (Cuddy & Fiske, 2002), nontraditional dialect' speakers (Ruscher, 2001), and women. Emotions that are elicited by such stereotypes are pity and sympathy. Envious stereotypes are attributed to the career women and feminists (Eagly, 1987; Glick & Fiske, 2001), Jews (Glick, 2002), and Asians (Lin et al., 2005). These stereotypes evoke emotions of envy and jealousy.

Evaluations of warmth and competence tend to influence many important decisions in organizations such as whom we befriend, trust, hire, fire, or avoid (Cuddy et al., 2009). Even though, it seems that competence perceptions are crucial for completing the tasks, research shows that perceptions of warmth are more important than perceptions of competence when we choose our work partner (Casciaro & Lobo, 2008; 2015) as competence can hurt us when individual turns out to be our enemy. Similarly, recent shift towards more transformational and ethical

leadership styles, indicates that warmth has gained significant importance at the workplace (Koenig et al., 2011).

While literature shows how we tend to rely on both high competence and high warmth when we select our collaboration partner, advice provider or informal leader (Casciaro & Lobo, 2008; 2015; Porath et al., 2015), it is still not clear how competence and warmth perceptions relate to ambivalent relations that we might have with our work partners. It is plausible that when individuals tend to have both positive and negative relations with group members, it might correspond to the ambivalent cognitions of warmth and competence. Thus, when we simultaneously experience closeness and conflict in our relations, we might perceive individual as competent but cold, which elicits envious emotions, or warm but incompetent, corresponding to pity emotions. This trade-off between warmth and competence might be explained by individual's tendency to protect their self-esteem. For instance, research shows that when individuals in competition with their friends, they tend to compare themselves with the friends and experience more threat by success of the friends than by success of strangers (Tesser & Campbell, 1982; Tesser et al., 1988; Tesser et al., 1989). As a result, in order to boost their self-esteem, individuals will tend to attribute negative stereotypes, perceiving friend as competent but cold.

Taking together, we predict that when individuals have ambivalent relationship, i.e. involving interpersonal closeness and conflict, with an informal leader or advice-provider, they will perceive him/her as less warm but more competent.

Hypothesis 3: When group members cite ambivalent tie (compared to positive tie, negative tie or no tie) with (a) the person higher on informal leadership and (b) the person more

frequently providing advice/help, they will perceive that person as less warm but more competent.

Methods

Sample and Data

We tested our hypotheses using study groups of first year master students. We collected data from a sample of 164 master students taking a general management course at a large-size European university over a three-month period. Students were assigned to teams of 4 to 6 people using a quasi-random process in order to create diversity within each team. We collected data from 32 teams at one point in time: in the middle of the final project. For our analyses, we included only teams that had at least 3 responses. Thus, final sample consisted of 120 students allocated to 30 groups. Forty six percent of the respondents were female and most of them were Caucasian (86% rate). The average age of team members was 22 years ($SD = 1.27$).

We used one-item question to analyze network ties, consistent with norms in social network studies (Labianca et al., 1998). To measure negative, advice, affective and leadership ties, in an online survey students responded to the following questions (adapted from Baldwin et al., 1997; Podolny & Baron, 1997).

Negative ties: How often have you had difficult interactions with this person (disagreements, tension, lack of consideration, rudeness) (during previous 1 month)? (1 = *never*, 2 = *once*, 3 = *a couple of times*, 4 = *often*, 5 = *almost always*).

Affective ties: How close is your relationship with this person? (1 = *not at all close*, 2 = *not very close*, 3 = *somewhat close*, 4 = *quite close*, 5 = *extremely close*).

Advice ties: How often have you sought school-related help or advice from this person (during previous 1 month)? (1 = *never*, 2 = *rarely [1–2 times]*, 3 = *occasionally [3–5 times]*, 4 = *frequently [6–9 times]*, 5 = *very frequently [>9 times]*).

Leadership ties: To what degree does your team rely on this individual for leadership? (1 = *not at all*, 2 = *to a small extent*, 3 = *to some extent*, 4 = *to a great extent*, 5 = *to a very great extent*).

We dichotomized measure of negative ties at values greater than or equal to 2, indicating that interpersonal relations between team members involve difficulties. Measure of closeness was dichotomized at values greater than or equal to 3, indicating that focal person considers himself close to another team member. Interaction of these two measures produces measure of ambivalent tie.

Warmth. Warmth was measured using two items from Cuddy et al.'s (2007) Behaviors from Intergroup Affect and Stereotypes (BIAS Map) scale. Items were measured on the scale from 1 = *not very* to 5 = *very*. Respondents were asked if they perceive their team member as warm and friendly.

Competence. Competence was measured using two items from Cuddy et al.'s (2007) Behaviors from Intergroup Affect and Stereotypes (BIAS Map) scale. Items were measured on the scale from 1 = *not very* to 5 = *very*. Respondents were asked if they perceive their team member as competent and capable.

Measures. To test Hypotheses 1 and 2, our dependent variable is the *citing an ambivalent tie* that equaled 1 if respondent cited difficult interaction with group member that happened *once, a couple of times, often, or almost always* as well as considered him or her *somewhat close, quite close or extremely close*, 0 otherwise (i.e., only close tie, only negative tie or no tie), to test Hypothesis 3a,b our dependent variables are (a) *warmth* and (b) *competence perceptions*.

Our independent variable for the Hypothesis 1 *leadership perception*, for the Hypothesis 2 *advice-seeking frequency*, for the Hypotheses 3 is an interaction of measure *citing an ambivalent tie* that equaled 1 if respondent cited difficult interaction with group member that happened *once, a couple of times, often, or almost always* as well as considered him or her *somewhat close, quite close or extremely close*, 0 otherwise (i.e., only close tie, only negative tie or no tie) and (a) *leadership perception* or (b) *advice-seeking frequency*.

Controls. Earlier studies showed that demographic characteristics (McPherson & Smith-Lovin, 1987) may affect formation of social ties. Thus we controlled for age in years, gender (coded 0 for male and 1 for female) and race (coded 0 for white and 1 for nonwhite). We also control for team characteristics such as team size.

We account for possibility that some team members knew each other before joining the team, thus we asked respondents to indicate for how long they have known each other prior to

joining the team. Results of the survey revealed that few respondents knew other team members for more than one month (24 directed dyads out of 370 or 6%) and we do not control for this.

Dyad-level analysis. We test our hypotheses at the dyad-level of analysis (370 directed dyads). As our dependent variable for the Hypotheses 1 and 2 is a binary measure of existence of a tie between two actors, we use logistic regression. By using this type of regression, we predict probabilities of citing an ambivalent tie.

Considering that each actor can participate in multiple dyads, we need to control for the non-independence of the individuals within the dyads. Traditional approaches will underestimate standard errors and inflate significance of our results. Thus, we need to estimate our models clustering on both dyad members and dyad itself. We use approach that was theoretically developed by Cameron et al. (2001) and applied for Stata through `clus_nway` command (Kleinbaum et al., 2013). This approach is similar to more traditional ones, such as quadratic assignment procedure (QAP) exponential random graph models (ERGMs) (Cameron et al. 2011).

Results

Hypothesis 1 posits that group members are more likely to cite ambivalent tie (compared to citing positive tie, negative tie or no tie) with the group member whom they perceive as an informal leader in a group. In Model 1 (Table 2), controlling for gender, age and race of ego and alter and team size, we do not find support for the Hypothesis 1. Thus, when we perceive someone as an informal leader, we are not more likely to have relationship with him or her that involves both affect and interpersonal conflict. In order to understand if perceptions of leadership

are associated with ambivalent relationships more than with pure affective relationships, we reduce our sample to only close ties. Model 2 shows negative and insignificant effect ($p=0.28$) of leadership perceptions on formation of ambivalent ties. These results suggest that when we nominate someone as a leader in a group, we are not more likely to end up in ambivalent relationships rather than in pure positive ones, indicating that there is no comparison and competition. Similarly, we compare ambivalent ties to pure negative ones. Model 3 (Table 2) shows that the effect of leadership perceptions on citing ambivalent tie is positive and significant ($p<0.05$). Finally, we compare ambivalent ties to indifferent ties, i.e. neither negative nor positive. Results indicate that we are more likely to hold ambivalent ties with informal leaders rather than indifferent ties with informal leaders ($p<0.05$) (Model 4). Overall, results suggest that individuals are not more likely to cite both close and difficult relations with informal leaders compared to any other type of relationships. At the same time, individuals tend to cite ambivalent ties with informal leaders compared to pure negative and indifferent ones.

Regarding Hypothesis 3, Model 1 (Table 2) shows positive and significant effect ($p<0.01$) of advice-seeking on citing an ambivalent ties (compared to citing negative, positive and no ties). Thus, when individuals are seeking help or advice from their peer, they are more likely to perceive relationship with him or her as an ambivalent. When we split the sample and compare ambivalent to affective ties only, we find positive and marginally significant effect ($p<0.1$) (Model 2). This indicates that when individuals are frequently seeking advice or help from their peer, they are more likely to have both affective and difficult relations rather than pure affective relation. Model 3 shows that individuals are more likely to cite ambivalent tie rather than negative one, when they actively seek advice from the target ($p<0.01$). Likewise, ambivalent ties have a higher probability to be cited compared to indifferent ties when ego is seeking help or

advice from the target ($p < 0.01$). Taken together, results suggest that individuals are more likely to cite negative ties (compared to citing positive, negative and indifferent ties) with the ones from whom they frequently seek advice or help.

 Insert Table 1 and 2 about here

We hypothesized that when individuals have ambivalent relationship, i.e. involving interpersonal closeness and conflict, with a person high on informal leadership or advice-providing, they will perceive him/her as less warm but more competent. In Model 1 and 2 (Table 3), controlling for gender, age and race of ego and alter, team size, competence and warmth respectively, we find support for the Hypothesis 3a. Specifically, group members are more likely to perceive ambivalent tie with the group member high on informal leadership as less warm ($p < 0.01$), but more competent ($p < 0.05$). Thus, it seems that ambivalent relation with informal leader are associated with envious feelings. In Model 1 and 2 (Table 4), controlling for gender, age and race of ego and alter, team size, competence and warmth respectively, we do not find support for the Hypothesis 3b. Surprisingly, we find opposite of what we predicted. In Model 2 (Table 4) we found positive and marginally significant effect of perceiving advice provider who is also a frenemy as less competent.

Insert Table 3 and 4 about here

As for our control variables, i.e. ego's age, has negative and significant effect ($p < 0.05$) in Model 4 (Table 2) and negative. Thus, it seems that older group members are more reluctant to form ambivalent ties with other group members. This is consistent with previous findings that older adults are better at regulating their emotions and seeing relationships from positive side even in difficult times (Carstensen, 1995; Blanchard-Fields & Coats, 2008).

Discussion

While ambivalence is a ubiquitous phenomenon that people can easily experience especially when they are stuck in a relationship with close ones, such as family members or mentors, relatively little is known about ambivalent relationships, particularly in the workplace. We contribute to the literature on ambivalent ties by uncovering who the targets are of the ambivalent ties in small study groups of master students. Considering that group context makes it harder for individuals to avoid interactions, it is a perfect place for ambivalent relationships to occur.

The topic of who are the targets is relatively understudied, though experience of ambivalence can have both negative and positive consequences for both parties, such as being motivated to perform better but also feeling stress and uncertainty. We found that ambivalent relationships tend to be formed with someone from whom we seek advice or help. Indeed, when

we actively seek help or advice from relational partner, we acknowledge our incompetence and dependence, which can also hurt our ego, increasing tension in the relationship. In order to check if this mechanism is true, we explored how group members perceive their frenemies from whom they seek advice or help in terms of warmth and competence. Contrary to our predictions, we found that frenemies with instrumental resources are not perceived as more competent but less warm compared to all other relations (positive, negative or no relation). Instead, respondents only see them as less competent, indicating that negative side of the relationship does not relate to envious feelings. Considering that our measure of negative relations capture civil behaviors which were found to relate to perceptions of competence (Porath et al., 2015), it might explain why respondents perceive frenemies providing advice and help as incompetent.

Surprisingly, our results suggest that ambivalent relationships are not likely to be formed due to our perception of someone as an informal leader. However, when we consider relationships that do involve ambivalence and high informal leadership perceptions, we find that respondents perceive relationship partner as competent but cold. This supports our prediction that ambivalence is born in these relationships out of feelings of envy.

In general, our findings support new stream of research that brings positive outlook on ambivalent ties. Despite the fact that people avoid having cognitive dissonance brought by ambivalent relations, we see that in some type of relations they are unavoidable and even necessary for us to be successful at our work. When we have a person that could provide advice or help, we will inevitably experience ambivalent interactions with them. However, having this type of frenemies will make you better at your job.

Our study is not without limitations. The first significant limitation is that our student sample lack external validity, preventing generalization to other workplace settings. It might be

possible that in organizations individuals can have different expectations from connecting with group members. At the same time, intensity of ambivalence in the relationships might be more pronounced in organizations, where people stuck with each other for a long time. Students groups are usually short-lived and mostly task-oriented rather than relationship-oriented, thus students might not be able to develop complex relationships with prior history. Last but not least, future studies should also directly test if the conflict in the close relationship is the result of envious feelings.

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Table 1 Descriptive Statistics and Correlations (370 dyads)

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Female (ego)	.45	.50	1.00							
2. Age (ego)	22.29	1.23	.01							
3. Non-white (ego)	.14	.35	.15**	.14**						
4. Ambivalent tie	.12	.32	.00	-.09	-.05					
5. Warmth	3.96	.96	.09	.09	.02	-.07				
6. Competence	3.98	.90	.10	.01	-.04	-.09	.47**			
7. Leadership	1.94	1.14	.09	-.03	-.00	.10	.38**	.65**		
8. Advice/help seeking	.81	.74	.07	-.07	.01	.22**	.28**	.32**	.41**	
9. Team size	5.10	.47	-.00	.04	-.06	.06	.19**	.14*	.06	.11*

** $p < 0.01$, * $p < 0.05$

Table 2 Logistic Regression Models Predicting Ambivalent Ties

VARIABLES	All ties	Close ties	Negative ties	No ties/ Indifferent ties
	Model 1	Model 2	Model 3	Model 4
Leadership	0.0859 (0.162)	-0.200 (0.186)	0.481* (0.193)	0.461* (0.193)
Advice/help seeking	0.724** (0.247)	0.479+ (0.252)	1.318** (0.435)	1.415** (0.433)
Female ego	-0.0864 (0.404)	-0.0800 (0.399)	0.160 (0.594)	-0.169 (0.571)
Female alter	-0.137 (0.266)	-0.132 (0.305)	-0.240 (0.525)	0.0199 (0.376)
Age ego	-0.277 (0.183)	-0.256 (0.209)	-0.358 (0.235)	-0.463* (0.232)
Age alter	0.0163 (0.112)	0.135 (0.145)	0.0367 (0.180)	-0.215* (0.108)
Non-white ego	-0.502 (0.582)	-0.275 (0.611)	-1.832* (0.880)	-0.328 (0.826)
Non-white alter	0.0976 (0.411)	0.165 (0.487)	0.0164 (0.426)	-0.0822 (0.660)
Team size	0.377 (0.533)	0.220 (0.502)	0.115 (0.385)	0.465 (0.647)
Constant	1.076 (5.840)	0.164 (6.228)	4.965 (7.632)	9.873 (6.476)
Observations	370	215	86	157

** p<0.01, * p<0.05, + p<0.1

Table 3 Regression Models Predicting Perceptions of Warmth and Competence when Perceiving Informal Leadership of Ambivalent Tie

VARIABLES	Warmth Model 1	Competence Model 2
Ambivalent tie x Leadership	-0.264* (0.123)	0.156 ⁺ (0.0871)
Leadership	0.156** (0.0556)	0.424** (0.0481)
Ambivalent tie	0.404 (0.295)	-0.705** (0.254)
Control for competence	0.379** (0.0812)	
Control for warmth		0.228** (0.0521)
Female ego	0.111 (0.0882)	0.0748 (0.0869)
Female alter	0.104 (0.103)	0.0728 (0.0748)
Age ego	0.0457 ⁺ (0.0249)	0.0107 (0.0314)
Age alter	-0.0911* (0.0420)	0.0484 (0.0301)
Non-white ego	0.106 (0.146)	-0.159 (0.110)
Non-white alter	0.00902 (0.180)	-0.0974 (0.114)
Team size	0.289* (0.130)	0.117 (0.0952)
Constant	1.594 (1.250)	0.355 (1.059)
Observations	370	370

** p<0.01, * p<0.05, + p<0.1

Table 4 Regression Models Predicting Perceptions of Warmth and Competence when Seeking Advice/help from Ambivalent Tie

VARIABLES	Warmth Model 1	Competence Model 2
Ambivalent tie x Advice/help seeking	-0.0533 (0.161)	-0.293 ⁺ (0.172)
Advice/help seeking	0.196* (0.0786)	0.344** (0.0760)
Ambivalent tie	-0.148 (0.238)	0.0278 (0.277)
Control for competence	0.425** (0.0776)	
Control for warmth		0.360** (0.0600)
Female ego	0.105 (0.0924)	0.102 (0.0948)
Female alter	0.0877 (0.104)	0.0243 (0.100)
Age ego	0.0536 ⁺ (0.0273)	0.0140 (0.0377)
Age alter	-0.0915* (0.0418)	0.0757 ⁺ (0.0401)
Non-white ego	0.102 (0.157)	-0.158 (0.114)
Non-white alter	-0.0316 (0.179)	-0.266 ⁺ (0.142)
Team size	0.253* (0.128)	0.0612 (0.120)
Constant	1.586 (1.296)	0.00887 (1.331)
Observations	370	370

** p<0.01, * p<0.05, + p<0.1