

Impact of Intrinsic and Extrinsic Motivation on Leadership Emergence in Teams

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Abstract

This paper explores the relationship between motivation (intrinsic & extrinsic) and leadership emergence in order to mitigate extreme (too much or too little) leadership claiming and granting. The study examines DeRue and Ashford's (2010) research, in addition to a host of other research articles, to hypothesize that intrinsic motivation is positively correlated to leadership claiming, while extrinsic motivation is positively correlated to leadership granting. The participants of this study are college students who have registered for course based credit at a midsize southeastern university. Each participant will join a team (three individuals per team), four teams per session. The four aforementioned teams will work as part of a larger problem-solving group to plan a civil infrastructure project in a fictitious developing nation. Before and throughout the study (at various time points), surveys will be administered that will collect information on motivation and leadership measures. After conducting analysis on the data, if the results support the aforementioned hypotheses, then extreme leadership claiming and granting can be mitigated by optimizing the amount of intrinsically and extrinsically motivated individuals on the team.

Impact of Intrinsic and Extrinsic Motivation on Leadership Emergence in Teams

In the late 19th and early 20th centuries, the structure of work centered on the idea that work is an amalgam of *individual* jobs (Kozlowski & Ilgen, 2006). In recent years, a series of global forces have caused a shift from the *individual* work based structure to a *team* based approach in order to enable more swift and adaptive responses to unexpected situations (Kozlowski & Ilgen, 2006). A team is defined as a small group of people that share four qualities: 1) skills that complement one another, 2) a shared vision/purpose, 3) like performance goals, and 4) a shared approach through which everyone can be held accountable (Katzenbach & Smith, 1993). Leadership is an important aspect that contributes to effective team performance (Zacarro, Rittman, & Marks, 2001). Team leaders are defined as those who a) diagnose any issues that could get in the way of goal attainment, b) generate relevant and applicable solutions, and c) have the ability to implement the aforementioned solution(s) given any range of social domains (Zaccaro et al., 2001). Given the importance of these functions to teams, understanding the qualities of the individuals who emerge as leaders of a team is an important question for organizational research.

Leader emergence is a process through which a leader identity is formed on the part of a prospective team leader, and subsequently accepted by a team member (DeRue & Ashford, 2010). The leader identity formation process has three distinct elements: 1) individual internalization, 2) relational recognition, and 3) collective endorsement (DeRue & Ashford, 2010). When an individual makes a claim for leadership, if the surrounding individuals grant that leadership then the three aforementioned elements can each be realized, thus creating a well-defined leadership identity (DeRue & Ashford, 2010). Strong leadership identity leads to clarity in leader-follower relationships, thereby allowing the followers to greater accept the leader's

ability to exert influence over them (DeRue & Ashford, 2010). If the surrounding individuals decide, however, not to grant leadership to the individual making a claim for it, then the three elements of leadership identity are not fully realized, consequently creating a weak leadership identity. This weak leadership identity fosters a lack of clarity in leader-follower relationships, resulting in increased leader-follower conflicts and tensions (DeRue & Ashford, 2010). As a result, the followers are not able to accept the leadership candidate's claim to exert influence over them.

This study posits that this claiming and granting process is influenced by individual motives (intrinsic & extrinsic). Intrinsic motivation is defined as a natural inclination or drive to attain, explore, or pursue some goal for the sake of one's own fulfillment or internal satisfaction (Ryan & Deci, 2000). Extrinsic motivation is defined as the drive to perform, pursue, and explore in order to attain some external outcome (Ryan & Deci, 2000). Essentially, intrinsic motivation is centered around an innate inner drive, whereas extrinsic motivation is centered around motivation being derived from an external source as opposed to coming from within the individual (Ryan & Deci, 2000). Motivation (extrinsic & intrinsic) has a profound influence on the claiming and granting process, by virtue of the risks and rewards associated with claiming leadership; low risks and high rewards for being a leader will likely result in more competitive leadership claims as well as less leadership grants, and vice versa (DeRue & Ashford, 2010). The ability to claim and grant leader and follower identities is vital to leadership identity construction and exertion of influence over followers (DeRue & Ashford, 2010). To date, little research has been done on the effects that intrinsic and extrinsic motivation have on leadership emergence. The purpose of this study is to determine whether intrinsic and extrinsic motivation positively or negatively relates to leadership emergence. By understanding the relationship between

motivation (intrinsic & extrinsic) and leadership emergence, extreme (too much or too little) leadership claiming and granting can be mitigated by optimizing the amount of intrinsically and extrinsically motivated individuals on the team.

Leader Emergence

Leader Emergence is directly linked to leadership identity, which, as previously stated, is comprised of individual internalization, relational recognition, and collective endorsement (DeRue & Ashford, 2010). Individual internalization is defined as a particular state where individuals incorporate the leader or follower identity as a part of their self-concept (DeRue & Ashford, 2010). Relational recognition as a concept suggests that leadership is not something that the leader has possession over (Hollander, 1993), but rather it is a recognized and understood relationship between individuals (DeRue & Ashford, 2010). Leadership identity will be substantially stronger if it is also relationally recognized through the adoption of complimentary leader and follower identities (DeRue & Ashford, 2010). Collective endorsement is described as being seen within a given environment as part of a particular social group; for example, leaders should be associated with the leader social group (DeRue & Ashford, 2010). In order to use these three elements in the formation of a leadership identity, the claims and grants of leader and follower identities must be backed by reciprocal grants and claims (DeRue & Ashford, 2010). If claims are not met by reciprocal grants or grants are not met by reciprocal claims, then the three elements which comprise leadership identity become irrelevant. Ultimately, this creates a weak leadership identity, which leads to a lack of clarity in leader-follower relationships, thereby generating conflict between leader and follower (DeRue & Ashford, 2010). The combination of a weak leadership identity and poor leader-follower relationships results in an inability of the leader to establish influence over the followers (DeRue

& Ashford, 2010). If claims are however met by reciprocal grants, or vice versa, then this results in strong leadership identity. Naturally, if individuals grant leadership to an individual, then this also that they claim a follower identity (DeRue & Ashford, 2010). Overall, by claiming leadership, the individual also grants followership, and the individuals who grant the leadership to the individual also claim followership. This convergence between the two entities (leader & followers) provides clarity in leader-follower relationships, consequently allowing the leader to properly exert influence over followers (DeRue & Ashford, 2010). Ultimately, the aforementioned processes lead to the emergence of a leader.

Motivation Orientation & Leader Emergence

Claiming and granting leader and follower identities is influenced by motivation (intrinsic & extrinsic). The risks and rewards that are associated with claiming leadership provide the basis for one's extrinsic motivation. Extrinsic motivation is centered around tangible rewards, resulting in a perceived locus of causality (perceived locus of causality refers to the extent to which an individual feels an action is attributable to either internal or external reasons) that is external to the individual (Deci, Koestner, & Ryan, 2001). There are three types of rewards: instrumental (formal power and authority), interpersonal (informal power and status), and image (being seen by others in a positive manner) (DeRue & Ashford, 2010). The aforementioned rewards motivate individuals to want to see themselves as a leader, as well as be seen by others as a leader (DeRue & Ashford, 2010). There are also three types of risks: instrumental (derived from the complex and uncertain forces that can affect a group's performance), interpersonal (derived from the awkwardness that arises if the individual's claims for leadership are not met by reciprocal grants), and image (derived from the concerns that may potentially arise with regards to how others may perceive the individual's claim for leadership) (DeRue & Ashford, 2010). The

aforementioned risks motivate individuals to take on the role of a follower as a defense against the anxieties that are associated with being a leader (DeRue & Ashford, 2010). Both risks and rewards have an external locus of causality, which ultimately acts as the basis behind extrinsic motivation. Unlike extrinsic motivation, intrinsic motivation is centered around the idea of an innate inner drive. There are individuals who are innately motivated to get things accomplished and have an internal need for power (DeRue & Ashford, 2010). Consequently, these people have an innate desire to claim leadership. Individuals that have an innate desire to lead, have an internal locus of causality, which provides the foundation for intrinsic motivation.

One must ask, how does one's motivation orientation impact whether they will assume leadership? For extrinsically motivated leaders, the risks and rewards that are associated with becoming a leader will impact leader emergence. For example, if there are many individuals on a team who understand and recognize instrumental, interpersonal, and image rewards that are associated with leadership, then (a) the more these individuals will try to claim a leader identity, and (b) the more these individuals will grant others a follower identity (DeRue & Ashford, 2010). Essentially, if the rewards associated with being a leader are high, then there will be a higher number of competitive claims for a leader identity, resulting in reduced chance for the emergence of a well-defined leadership identity (DeRue & Ashford, 2010). Consequently, there is no particular individual who is allowed to establish influence over a set of followers (DeRue & Ashford, 2010). Additionally, if there are many individuals on a team who understand and recognize instrumental, interpersonal, and image risks that are associated with leadership, then (a) the less these individuals will try to claim a leader identity and (b) the more these individuals will try to claim a follower identity (DeRue & Ashford, 2010). Essentially, if the risks associated with being a leader are high, then the higher the number of competitive claims for a follower

identity (DeRue & Ashford, 2010). As a result, there are less claims for leadership, which consequently leads to a reduced chance for the emergence of a well-defined leadership identity (DeRue & Ashford, 2010). Ultimately, since nobody makes a sincere claim for leadership, there is no particular individual who is allowed to establish influence over a set of followers (DeRue & Ashford, 2010).

Intrinsic motivation relies not on risks and rewards, but on innate internal drive. Consequently, because of intrinsic motivation's internal locus of causality, unlike extrinsically motivated leaders, the leadership emergence of intrinsically motivated leaders will not be impacted by the external rewards and risks of leadership (Deci et al., 2001). Therefore, irrespective of whether or not the risks/rewards are too high, overall intrinsic motivation to lead should stay the same. Consequently, extreme (too much or too little) leadership claiming and granting does not occur. This helps foster proper emergence of a well-defined leadership identity, allowing a particular individual to establish influence over a set of followers (DeRue & Ashford, 2010).

In order to mitigate extreme (too much or too little) leadership claiming and granting, it is imperative that the relationship between motivation (intrinsic & extrinsic) and leadership emergence be understood. By doing so, team structure can be altered so that there is a particular number of intrinsically and extrinsically oriented individuals in order to prevent high risk and/or high reward from hindering leadership emergence.

Hypotheses

Motivation affects leader emergence by determining who will claim leadership and who will grant leadership. Extrinsic motivation, as discussed in the previous section, due to its link to

risks and rewards, can cause issues for leadership emergence. Risks and/or rewards can both be too high, resulting in either too little or too many individuals claiming leadership respectively. Consequently, there is no particular individual who can exert influence over a set of followers, making it difficult for leadership emergence (DeRue & Ashford, 2010). Intrinsic motivation, due to it being centered around the concept of an internal drive, has an internal locus of causality. This means that intrinsic motivation does not rely on risks and rewards, therefore whether or not the risks/rewards are too high, intrinsic motivation to lead should remain the same.

It is logical to hypothesize that since intrinsic motivation does not rely upon risks and rewards, and is consistent across all scenarios, it is positively related to leadership claiming. This is because intrinsically motivated individuals will not have to wait to assess the situation's risks and rewards – rather they will be able to assume a leadership role from the beginning.

H₀ Intrinsic motivation is positively related to leadership claiming

H_a Intrinsic motivation is negatively related to leadership claiming

Extrinsic motivation is reliant upon risks and rewards. Therefore, there are situations where these individuals do and do not want to grant leadership. Consequently, by the time an extrinsically motivated individual assesses whether it would be “worth it” to strive for a leadership position, an intrinsically motivated individual is likely to have already asserted himself into said role. In this case, this leaves the extrinsically motivated individual relegated to the role of a follower. As a result, it is logical to hypothesize that extrinsic motivation is positively related to leadership granting.

H₀ Extrinsic motivation is positively related to leadership granting

H_a Extrinsic motivation is negatively related to leadership granting

Methods

Participants and Procedure

The hypotheses will be tested in a sample of 20 teams (60 individuals), each comprised of 3 individuals. Participants are college students who have registered for course based credit at a midsize southeastern university. Each team performs a decision making task where: data collection will be conducted in a laboratory, surveys will be administered, and audio & video of team interactions will be recorded. Four teams will be tested in each session, and the teams will work as part of a larger problem solving group to plan a fictitious civil infrastructure project in a fictitious developing nation. Individuals will work on one of four teams: Geology Team (this team determines the plot of land which has the best water yield), the Construction Team (this team maximizes the efficiency of the construction of the well while minimizing the costs of the construction project), the Engineering Team (this team creates the most innovative well design possible to maximize the water output), or Village Council (this team will try to minimize the security, cultural, and maintenance costs that come with the new well).

Prior to arriving in the lab, each individual is required to take a survey including a measure of intrinsic and extrinsic motivation. After taking the survey, students come to the lab where they sign in and assume the role which resides next to the slot number the participant signed in under. Once all 12 participants have signed in and are seated with their respective teammates, the study can begin. For the first part of the study, the students watch a video that details the beginning, in which the participants take an hour to learn their individual role on the team. As the students are going through the roles, they take a training survey on an iPad to help guide the participants through the learning process. After the hour, the participants watch another video that outlines the team based phase of the study. In this phase, the individual members work

together to achieve the task that is outlined for that particular team. Every fifteen minutes, a pop-up survey comes up and collects information on leadership measures at the team level (for more information, see measures section). After thirty minutes, the team phase and all processes associated with it are wrapped up. A team level survey is administered on the iPads which will again reinforce the learning done in the team phase. After the survey is completed by all members, a third video will be played. This video outlines the group-level phase, in which all of the teams work together to accomplish an overall goal, build a well in Africa. Again, pop-up surveys are administered in fifteen minute intervals to gather information on leadership measures; this time across the larger problem-solving group (comprised of the four aforementioned teams). This particular data collection phase lasts one hour. At the thirty-minute mark, a group-level based survey is administered on the iPads. After the survey is completed, the group-level task continues until the full hour is expended, at which point a second group-level survey is administered to the participants. After this survey is completed, the study is complete and the participants are free to either leave or attend an optional debriefing session.

Measures: Leadership Claims & Grants

Leadership was assessed using a measure that was created for this study. Participants responded to a set of eight sociometric questions (within the pop-up surveys that were administered every 15 minutes during the Team and group-level phases); sociometric meaning that every person will rate every other person on whether or not they relied on that person for leadership. The responses were based on a checklist system. An attempt to claim leadership is centered around the concept of an individual providing leadership to others. Therefore, leadership claims are measured using a sociometric item: “Who did you provide leadership to (check all that apply)”. The ability to grant leadership is centered around the concept of

individuals relying upon others for leadership, as opposed to the self. Consequently, leadership grants are measured using a sociometric item: “Who did you rely upon for leadership (check all that apply)”.

Measures: Motivation Orientation

Motivation Orientation was assessed using a measure that was developed by Amabile, Hil, Hennessey, and Tighe (1994). This study will adapt the Work Performance Inventory (WPI), developed by Amabile, et al. for the purposes of the current study by implementing ten questions that will measure intrinsic and extrinsic motivation. Five of the questions will be used to measure intrinsic motivation and another five of which will be used to measure extrinsic motivation. These questions will be inserted into the time zero (T0) survey which the students will complete before they come to the lab to complete the study. Responses to the questions are recorded using a 4-point scale, “from 1 = never or almost never true of me to 4 = always or almost always true of me” (Amabile et al., 1994, p. 953). From the first set of 5 questions, an example of an intrinsic motivation based question is “Curiosity is the driving force behind much of what I do” (Amabile et al., 1994). From the second set of 5 questions, an example of an extrinsic motivation based question is “I believe that there is no point in doing a good job if nobody else knows about it” (Amabile et al., 1994).

Results

The first hypothesis that was tested stated that: intrinsic motivation is positively related to leadership claiming. This means that the more intrinsically motivated subjects are, the more likely they are to say they provide leadership to others.

A statistical analysis procedure called ERGM (exponential random graph model) was used to analyze the data and draw inferences about the effects of motivation orientation on the likelihood of leadership claiming. The analysis done by the model controlled for factors such as team member likelihood to provide and grant leadership to one another, as well as individuals' motivation to lead. The analysis that was conducted yielded significant results, but in the direction opposite to what was initially hypothesized, as seen in Table 1. The odds ratio for intrinsic motivation, which is calculated by taking the respective unstandardized estimate to the exponent, is 0.46. This means that for every point an individual increased on the intrinsic motivation scale, that person is 0.46 times as likely to claim leadership. In other words, for every point an individual increases on the intrinsic motivation scale, he or she becomes 64 % less likely to claim leadership.

Interestingly, although it was not hypothesized, Table 1 shows that extrinsic motivation yielded an unstandardized estimate of 1.15. After taking the unstandardized estimate to the exponent, the odds ratio is 3.16. This means that for every point an individual increases on the extrinsically motivated scale, that person is 316 % more likely to claim leadership. Both aforementioned odds ratios for intrinsic and extrinsic motivation, respectively, are significant with an alpha of 0.05. These results show that the null hypothesis must be rejected in favor of the alternative.

Table 1

Results of ERGM Analysis Predicting Leadership Claiming Based on Motivation Orientation

Variable	Estimate Std.	Odds Ratio	Error
Edges	-2.4641	0.085	1.4110
Team	0.5308	1.700	0.4312
Intrinsic Motivation	1.1506	3.160**	0.4101
Extrinsic Motivation	-0.7665	0.465*	0.3607
Motivation to Lead	-0.3259	0.722	0.2704

Note. * indicates $p < .05$; ** indicates $p < .01$

Using similar ERGM analysis to that of the first hypothesis' analysis, the second hypothesis was also tested for significance. The second hypothesis stated that: extrinsic motivation is positively related to leadership granting. This means that the more extrinsically motivated individuals are, the more likely they are to say they looked to other people for leadership.

The analysis that was conducted for the second hypothesis yielded results, as shown in Table 2, that were not statistically significant. The odds ratio for intrinsic motivation was 0.6816, and 1.18 for extrinsic motivation. The p-values for intrinsic and extrinsic motivation, 0.253 and 0.560 respectively, when compared to an alpha of 0.05, showed no statistical significance. The results show that extrinsic motivation is not related to leadership granting.

Table 2

Results of ERGM Analysis Predicting Leadership Granting Based on Motivation Orientation

Variable	Estimate	Odds Ratio	Std. Error
Edges	-2.1131	0.1209	1.2174
Team	1.6499	5.2065***	0.3132
Intrinsic Motivation	-0.3833	0.6816	0.3349
Extrinsic Motivation	0.1656	1.1801	0.2839
Motivation to Lead	-0.3193	0.7267	0.2186

Note. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$

Discussion

In the present study, it was proposed that motivation orientation affects leadership emergence by determining who will claim leadership and who will grant leadership. Since intrinsic motivation does not rely upon risks and rewards, and is consistent across all scenarios, it was expected to be positively related to leadership claiming. In addition, since extrinsic motivation does rely upon risks/rewards, it is subject to too little or too much leadership claiming. As a result, it was proposed that extrinsic motivation would be positively related to leadership granting.

The proposed expectations were not supported. The results showed that the more intrinsically motivated the individual, the less likely this person would be to claim leadership. Although intrinsically motivated individuals have an internal drive, which stays consistent throughout high and low risk/reward scenarios, this does not translate into claims for leadership (DeRue & Ashford, 2010). Furthermore, the more extrinsically motivated the individual, the more likely this person would be to claim leadership. Despite high and low risk/reward scenarios causing too much or too little leadership claiming, this external drive translated into more

leadership claims (DeRue & Ashford, 2010). The results also show that extrinsic motivation is not related to leadership granting.

Implications

The implications of this study, and its results, aid in team construction and formation. By figuring out the relationship between motivation orientation and leadership emergence, team structure can be altered in order to prevent the formation of an ineffective leadership identity. Using the results from this study, a team can effectively be constructed for settings where the activity is intrinsically motivated. In a scenario that has an intrinsically motivated activity, if a team had only intrinsically motivated individuals on it, then that is the equivalent of having a team full of people who actively seek to not be a leader, as per the results. The person who would be anointed as the leader may not actually want to be a leader. Consequentially, this can lead to a lack of clarity in leader-follower identities, creating weak leadership within that team (DeRue & Ashford, 2010). To prevent this from happening, teams can be formed such that there are predominantly intrinsically motivated individuals on the team, as well as a limited amount of extrinsically motivated individuals. Extrinsically motivated individuals actively want to claim leadership, while intrinsically motivated individuals do not. This means that a clear leader can be anointed, therefore creating a clear and effective leadership identity (DeRue & Ashford, 2010).

Limitations

There are limitations to the present study's results that call into question the validity of external application. One such limitation is that teams that are assembled only work together for a short amount of time. Intrinsically motivated individuals are motivated to do things because they inherently find said activity interesting or enjoyable (Ryan & Deci, 2000). Since the study takes place over such a short period of time, becoming a leader within that time frame and

maintaining those individuals may not seem enjoyable to intrinsically motivated individuals, within the context of this study. In addition, the technically oriented roles of the study may inherently be more interesting to people of an intrinsic motivation orientation. As a result, the focus of intrinsically motivated individuals may have shifted to more technically oriented roles. This shift in focus, along with the moderate reward of course based credit, and the low risk environment of a controlled lab setting allowed extrinsically motivated individuals to claim leadership within their groups more often (Ryan & Deci, 2000). Consequently, since this study took place in a controlled lab setting, the generalizability of the results is threatened. In addition to the lab based setting, the lack of generalizability and validity can also be explained by the small sample size of the study. Currently, it is not known whether these results can be yielded over a wider range of people since the sample size was small. Further testing, with a larger sample size, is required.

Future Directions

Given the current results and the conditions behind the study, there are a couple important avenues for this research to expand upon. First, future research should examine what happens when the task at hand is largely extrinsically motivating. Currently, no conclusions can be drawn on motivation orientation and the likelihood of leadership claiming and granting for extrinsically motivating tasks. Another area of expansion is to make the study feature more real world aspects such that it does not feel so much like a controlled lab setting. This atmosphere can affect the way intrinsically and extrinsically motivated people view the scenario. In order to increase the generalizability, real world parameters should be factored in, such as work based risks and rewards, as well as social situations and structures seen in corporate offices. The study

should also feature a wider range on people included, not just college students, as well as a larger sample size, in order to increase the generalizability.

Conclusion

Motivation orientation, and its role in leader emergence, is prevalent in any team based setting. Our study shows that in a scenario that involves an intrinsically motivated activity, intrinsically motivated individuals are not claiming leadership. This may be because intrinsically motivated individuals potentially shift their focus such that they focus on the enjoyable task, and not on claiming leadership. By integrating motivation orientation as a factor and figuring out how it relates to leader emergence across a given scenario, this study offers new directions for research on leadership emergence and its relationship to motivation orientation. Furthermore, the implications of this study aid in team construction and formation, given that the activity is geared toward intrinsically motivated individuals.

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