UNIVERSITY OF TWENTE

Master of Science Thesis
Service and Change Management
Business Administration

"Humor in Meetings : Does it affect their Effectiveness?"

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March, 2016
Enschede, The Netherlands

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ACKNOWLEDGEMENTS

Completing this master thesis means the end of my study Business Administration, Change Management and Organizational Behavior. For this thesis I dedicated myself almost a year to effective behaviors, leadership and teams. I would not have been successful without the chances and support of Mrs. Prof. Dr. C.P.M. Wilderom. Thank you for giving me the opportunity to be part of the 'Leadership Lab', and your open-minded and inspiring vision toward new ideas. I would also thank Mrs. A.M.G.M. Hoogeboom for the contributing ideas and constructive feedback.

A special thanks for Marlies Kleinsman for the pleasant collaboration and your helpfulness of the past year. We shared frustrations and setbacks, but there was also a lot of positivity and humor. Sometimes we made the joke, with our group of master students, that the whole 'codebook' passed in one day.

I would like to thank my family, friends and colleagues for the great support and last but not least my boyfriend Rudy. He was patient and supports me despite my crankiness about the numbers in SPSS and gave me the confidence that I would finally succeed.

ABSTRACT

The use of humor in organizations is an under-researched topic. Humor is an important element of human interaction and therefore has an impact on how workgroups operate effectively and subsequently on organizations. However in the literature, empirical research within the team context is scarce. Humor is an important contributor to group productivity because of its positive effect on group cohesiveness, communication and creativity, hence it seems a 'valuable behavior' in organizations. In this study we do not only examine the direct effect of humor on team effectiveness, but also investigate the sequences of behaviour after humor is displayed. During regular staff meetings, 79 leaders and their followers were video-taped, and their behaviors were coded by two independent raters. Because we were interested in Leader-Follower and Follower-Leader interaction sequences, we analysed interaction sequence tables in order to determine how often 'humor' was followed by other behavior. Three categories of chain-reactions are distinguished: Humor – Humor, Humor- Transformational Style, Humor – Transactional Style. The effectiveness scores were obtained through survey data among leaders and followers. Results indicated that a transactional (TAL) reaction of the leader on humor behavior of a follower, can decreases team effectiveness significantly. On the other hand, humor displayed by the leader 'works' only, when the follower reacts with transformational behavior (TLS); As hypothesized, the combination Leader Humor – Follower TLS, was positively significant for team effectiveness.

Keywords: *Humor, Staff Meetings, Leader- and Team Effectiveness, Interaction Patterns, Transformational Leadership Style, Transactional Leadership Style, Lag Sequential Analysis.*

INTRODUCTION

The use of humor in organizations is an under-researched managerial topic. Although it has been suggested from previous literature, that humor may be a valuable 'behavior' in organizations, empirical data investigation into the effects of humor on performance has yielded sparse data (Duncan, 1990). "Humor is a tool to study the social forces in an organization because the content and form of humor reflect social relations, power distributions and changes in both" (Decker & Rotondo 2001; p.1). Moreover, humor is an important element of human interaction and triggers positive socio-emotional communication, procedural structure and new solutions. (Lehman-Willenbrock & Allen, 2014; p.1). Humor can be observed in a social setting, like a team context, and regular staff meetings are pre-eminently suitable to investigate interaction processes.

Humor is also often discussed as an important characteristic associated with leadership (Bass, 1990; Shamir, 1995), but empirical research examining humor and leadership are limited (Avolio et al., 1999). The purpose of this study is to contribute to the literature of team- and leader effectiveness, by offering new insights in the role of humor. Dwyer (1991) noted that the effectiveness of humor also depends on the 'status' of its initiator, target, and audience. Therefore it is important to study both leaders and followers.

With The Multifactor Level Questionnaire (MLQ), we examine the effectiveness scores as perceived by leaders and followers. The systematic approach of video-based coding (Wilderom, Klaster, Ehrenhard & Hicks, 2010) of leader and follower behaviors provides us with the additional information about interaction processes focused around humor. Because humor aims to respond, we are interested in the reactions (of both leaders and followers). Parts of the Lag Sequential Analysis strategy were applied, in order to determine how often one behavior was followed by another and the probabilities were calculated. With the 'new obtained combination (lag 0 and lag 1) – variables', multiple linear regression analyses is used to test the explained variance at humor sequences on leader- and team effectiveness. In this way we are able to link humor, as part of an interaction process, to team performance. Through the use of different data sources and methods, common method bias is reduced (Podsakoff, Mackkenzie, Lee & Podsakoff, 2003). In this paper, we first review the existing literature on leader- and team effectiveness, leadership styles, interaction processes and humor. Subsequently hypotheses are formulated after which we report the results and interpretations of our empirical investigation.

We contribute to the literature in the following ways. While earlier research focused mainly on the role of humor on an individual level, this study investigated humor within its social context. Humor is considered as a part of interaction patterns, which also provides insights in effective or ineffective reactions on humor behavior. Second, this study connects humor and performance, by measuring the leader- and team effectiveness.

THEORY AND HYPOTHESES

Team Effectiveness

A team is defined as a group which is restricted in size and works together interdependently based on common overarching objectives in order to achieve its common goals (Cameron & Green, 2012). Usually, the different members of the teams are mutually dependent on each other (Spencer, 1993). Numerous definitions of groups, teams, and other forms of collectives are composed over the years. Given that the focus of this study is on work teams, we adopt the definition advanced by Kozlowski and Bell (2003; p. 334): *"Teams are collectives who exist to perform organizationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity."*

In 1964, McGrath advanced an 'input-process-outcome' framework for studying team effectiveness. The inputs include 'individual team member characteristics' (e.g., competences, personalities), 'team-level factors' (e.g., task structure, external leader influences) and 'organizational and contextual factors' (e.g., organizational design features, environmental complexity). The *inputs* enable and constrain members 'interactions, the *processes* describe members' interactions toward task accomplishment and the *outcomes* are the results and by-products of team activity. Within the outcome, there's a distinction between the performance (e.g., quality and quantity) and members' affective reactions (e.g., satisfaction, commitment, viability). Moreover, Cohen and Bailey (1997) emphasize the 'process-stage' and developed a model of group effectiveness which links the external influential factors to effectiveness, and specify the 'process-stage' into external processes, internal processes and group psychological traits.

Team processes play a central role for years in team effectiveness models (Gist, Locke, & Taylor, 1987; Guzzo, Shea, 1992; Hackman, 1983) and in previous literature, team processes were often categorized as "taskwork" or "teamwork" (McIntyre & Salas, 1995; Oser, McCallum,

Salas & Morgan, 1989; Stout, Cannon-Bowers, Salas & Milanovich, 1999). 'Taskwork' describes functions that individuals must perform to accomplish the team's task, and 'teamwork' describes the interaction between team members (McIntyre & Salas, 1995). In line with these findings, Waller, Gupta and Giambatista (2004) emphasizes 'teamwork' and suggest that specific interaction patterns between team members (groups dynamics) enhances team effectiveness. Instead of two dimensions, Marks et al. (2001) categorized team processes into three superordinate categories: transition phase (members concentrate on mission analysis, planning, goal specification and strategies), action phase (members focus on task accomplishments, monitoring progress and systems, coordinating team members) and the interpersonal phase (conflict management, motivation, confidence building).

Leadership plays an important role in all of these three phases and is one of the most important factors within interaction patterns (Kahai, Sosik, & Avolio, 1997; Tarricone & Luca, 2002). Hence, it is important to understand the exact role of leaders within team interaction processes, in order to explain which team processes and specific interaction patterns enhances team effectiveness.

Leader Effectiveness

Leader effectiveness refers to judgements about a leader's impact on individual, team or organizational performance. In most studies 'ratings' are used to evaluate the individual leader (Hogan, Curphy & Hogan, 1994). However, Yukl (2012) advocates that behaviors which are important for leadership effectiveness are explained better by theories about group/team performance and organizational performance than leadership theories focused on individual leaders or followers. According to Hogan et al (1994), "The key to a leaders' effectiveness is his or her ability to 'build' a team" (p.16). Other scientists stated: 'Leaders have the primary responsibility for a successful team and play a critical role' (Zaccaro et al., 2001), and Chemers (2001) indicate that effective leadership is to maintain that a group is cohesive, motivated and directed. But these terms are relative subjective, unspecified, and therefore difficult to bring into practice and hard to measure. A little more specific, important leadership functions are: 'the developing and shaping of team processes', and 'monitoring and managing of team performance' (Fleishman et al., 1991; Kozlowski & Bell, 2003). Hallam and Campbell (1992) went a step further and have related leader effectiveness to team performance and identified eight challenges for leadership that directly affect team performance. Six problems are task-related: communicating a clear mission, identify available resources (talent), develop talent, plan and

organize, coordinate work activities, and acquire needed resources. Two involve team maintenance: minimize and resolve conflicts among group members, and ensure that team members understand the team's goals, constraints, resources and problems. These 'team building' tasks are in line with the leader behaviors developed by Yukl et al. (1990).

In order to maintain a high performing team, leaders use different motivational strategies and techniques. The transformational- and transactional leadership style are frequently used, and components of both are essential for guiding a team or organization to success. In addition, team processes play a crucial role in establishing team effectiveness, but the formally responsible for developing and shaping these team processes is the leader.

Transformational Leadership Style: Prior leadership studies have consistently shown a positive link between the transformational leadership style (TLS) and leader effectiveness (Lowe, Kroeck & Sivasubramaniam, 1996; Bass, Avolio, Jung & Berson 2003; Judge & Piccolo, 2004; Yukl, 2010). Transformational leaders are leaders who motivate their followers to exhibit extra effort and to look beyond their self-interest (Bass, 1990) They build personal and social identification among followers, resulting in enhanced commitment and performance of their followers (Bass et al., 2003). The four dimensions of transformational leadership are: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1999). Idealized influence is also referred to charisma, and consists of two scales: 'idealized influence behaviors' and 'idealized influence attributed' (Bass,1999). Idealized influencing- and inspirational leaders motivate followers by inspiring them with a vision of the future and behave themselves charismatic, in such a way that followers can identify themselves within the leaders vision and goals. With intellectual stimulation, the leader challenges followers to be creative, innovative and facilitate them in solving problems. Individual considerate behavior of leaders refer to paying attention to individual needs for achievement and growth by acting as a mentor or coach (Bass & Avolio, 1995; Bass, Avolio, Jung & Berson, 2003; Judge & Piccolo, 2004). Transformational leaders can make an important contribution to both team and organizational performance. Members of transformational teams inspire and stimulate each other, which makes them a highly performing team (Bass, 1999).

Transactional Leadership Style The more traditional leadership style, is the transactional leadership style (TAL). Two dimensions of transactional leadership are distinguished: contingent reward (CR) and management-by-exception (MBE). In the first behavioural dimension (CR), the leader links the goal to rewards, clarify expectations, provide necessary resources, set mutually agreed upon goals, and provide various kinds of rewards. The exchange between leader and

follower takes place to achieve routine performance goals. The second behavior (MBE) can take an active or passive form. With 'active management by exception', the leader actively monitors the work, watch deviations from rules and standards and takes corrective actions to prevent mistakes. With 'passive management by exception', the leader intervenes only when standards are not met, or when critical problems arise. The main difference between MBE-A and MBE-P, is the moment of intervention (Howell, Avolio, 1993). In this study we concentrate on the contingent reward dimension and the MBE -active part of dimension two.

One of the core arguments made by Bass (1985) was that transformational leadership would account for a greater share of variance in performance outcomes when compared with some traditional transactional styles of leadership. So in this study we focus on both transformational- and transactional leadership style. The Multifactor Level Questionnaire (MLQ) is the most frequently used instrument to rate effectiveness of a leader by measuring the degree of both, transformational and transactional, styles (Judge & Piccolo, 2004).

As described, reflected from the existing literature, it can be concluded that effective leadership (transformational- or transactional style) contributes to team effectiveness.
With this study we aim to explain both; leader- and team effectiveness.

Humor

Humor is regarded as a basic element of human interaction (Romero & Cruthirds, 2006) and therefore has an impact on workgroups and organizations. This behavior is rarely included in behavioral taxonomies, such as the TLS and TAL paradigm (Judge & Piccolo, 2004). According to Martineau (1972), humor is "any communicative instance which is perceived as humorous", and consists of non-verbal and verbal communications which produce a "positive cognitive or affective response from listeners" (Crawford, 1994). Our focus is on 'verbal communications', such as joking and laughing, but in the literature the distinction is frequently indefinite. For example, Romero and Cruthirds (2006) defined organizational humor as "amusing communications that produce positive emotions and cognitions in the individual, group, or organization", which entails vagueness about differences between verbal- and non-verbal interaction.

Martin et al. (2003) distinguished four humor styles for understanding humor's dynamic nature: (1) Affiliative humor, which focuses on 'enhancing interaction'. Individuals who exhibit this behavior are usually perceived as non-threatening (Vaillant, 1977). (2) Self-enhancing

humor, a mechanism of dealing with stress. People who exhibit self-enhancing humor have a positive perspective/ humorous view of life, and the initiators intention is to enhance his/her image relative to others in the group. (3) Aggressive humor. Individuals who employ aggressive humor aim to manipulate others by means of an implied threat of ridicule (Janes & Olsen, 2000). (4) Self-defeating humor, utilized by people who ridicule themselves in an attempt to amuse and seek acceptance from others (Martin et al., 2003). The third (and fourth) style of humor shows a more malicious side of the intention of humor, and similar to that 'The superiority model of Humor' (Foot, 1986; Moreall, 1987) is based on the notion that humor can be used to ridicule and make others feel inferior in order to feel superior oneself (Zillman & Stocking, 1976). In line with this, Martineau (1972) involved both sides and noted that humor can on the one hand function to facilitate social connections and engender positive responses (positive humor), but it can on the other hand function as a social abrasive, creating friction and conflict within a social group and leading to negative reactions (negative humor). Because negative humor (i.e. humor that induces negative feelings) counteracts the team processes essential for team effectiveness, in this paper we explicitly refer to positive humor.

Positive humor is an important contributor to group productivity because of its positive effect on group cohesiveness, communication (Duncan, 1982), creativity (O'Quin & Derks, 1997), and stress reduction (Moreall, 1991). Thus humor is more than just a funny concept, it may be a valuable management tool in organizations that can be used to achieve many objectives. It can strengthen collegiality (Vinton 1989; Hay 1995; Ehrenberg 1995; Clouse & Spurgeon 1995), soften an instruction or criticism (Cox et al. 1990; Moreall 1991; Ross 1992; Barsoux 1993), and release tension (Coser 1960; Consalvo, 1989).

In the Western society humor is often discussed as important characteristic of effective leadership (e.g. Bass, 1990; Shamir, 1995), and Barbour (1998) identified four functions of humor that enable leaders to be more effective: "facilitate learning, , help change behavior, promotes creativity, reducing fear of change". On the individual level, Cheng & Wang (2014) showed that exposure to humor also increases individuals' persistence. Persistence is the amount of time and effort that a person spends at a given task (Blau, 1993) and is often a key factor in achieving one's goals. Also in other disciplines, the effects of humor on individuals are examined very specific and published regularly. For example, health scientists showed that humor and laughter strengthens our immune system, boost energy, diminish pain, and protects against the effects of stress (Pressman & Sheldon, 2005).

However, the use of humor in organizations and the effects on group processes is an under-researched topic. So, in this study the focus is on interaction (group) processes instead of individual processes and effects.

During regular staff meetings all team members interact with another, which makes it the ideal context for studying humor, as well as many other team interaction processes (Kauffield & Lehman-Willenbrock, 2012; Lehman-Willenbrock, Meyers, Kauffield, Neininger, & Henschel, 2011). Because, as already mentioned, humor is 'a basic element of human interaction' and interaction is a reciprocal action or influence, we suspect that humor has more effect in combination with a similar positive reaction. Humor in team meetings is embedded in verbal interactions by different team members, and an unique opportunity for examining humor-reaction patterns. When a team member makes a humorous statement, he/she invites others to react. Within this study we restricted ourselves to verbal communication, and humor is coded when a team member makes a joke to another team member (on a friendly/kind way). Also, laughing about jokes and stories by team members is coded as humor.

The lag sequential analysis (Sackett, 1979, 1987) has become an important tool for researchers of interpersonal interaction. Because we were interested in Leader-Follower and Follower-Leader interaction sequences, we used parts of this analysis strategy. First, we generated interaction sequence tables, in order to determine how often one specific behavior (humor) was followed by another behavior (Lag 0 – Lag 1). Lag 1 is the direct reaction on the initiator (Lag 0). Based on these frequency matrices, we derived transition probabilities (the probabilities that a specific behavior (lag 1) occurs after a particular behavior (lag 0) within in the interaction process (Benes, Gutkin, & Kramer, 1995).

From the video data, very specific behaviors were obtained, but we are also interested in reactions derived from the two leadership styles TLS and TAL. These styles contain different observed behaviors and therefore broader categories were composed. In designing the categories, the structure of the MLQ is followed, and for this study we bundled agreeing, positive feedback, intellectual stimulation and individualized consideration as TLS (transformational style). We included humor and personally informing into this category as well, because these behaviors are also very relation-oriented. Providing negative feedback, directing/correcting and verifying is bundled as TAL (transactional style).

Although some previous research indicates that humor can promote team effectiveness through a variety of group interaction processes (e.g. effective communication, development of group goals, management of emotion) and outcomes (Romero & Pescosolido, 2008), we still do

not understand how and when humor really contributes to team performance. With the transition probabilities we were able to design 'new variables', combining lag 0 and lag 1 information, and subsequently with a multiple regression analysis we were able to link the interaction patterns to performance. Because leadership is one of the most important factors within these interaction patterns, we decided to test the variables with both leader effectiveness and team effectiveness.

Hypothesis 1a: *The combination of Follower Humor - Leader Humor is positively related to leader effectiveness.*

Hypothesis 1b: *The combination of Follower Humor - Leader Humor is positively related to team effectiveness.*

Hypothesis 2a: *The combination of Follower Humor - Leader TLS is positively related to leader effectiveness.*

Hypothesis 2b: *The combination of Follower Humor - Leader TLS is positively related to team effectiveness.*

Because humor is a social phenomenon, every joke requires both a teller and an audience, we suspect that humor has only positive effect on effectiveness in combination with a similar positive reaction. A task-oriented reaction 'blocks' the humor pattern, and the intention of the humor initiator 'fails'. Therefore in hypotheses 3 and 6, we suppose that there's a negative correlation between humor and effectiveness, if the subsequent reaction is task-oriented.

Hypothesis 3a: *The combination of Follower Humor - Leader TAL is negatively related to leader effectiveness.*

Hypothesis 3b: *The combination of Follower Humor - Leader TAL is negatively related to team effectiveness.*

Hypothesis 4a: *The combination of Leader Humor - Follower Humor is positively*

   related to leader effectiveness.

Hypothesis 4b: *The combination of Leader Humor - Follower Humor is positively related to team effectiveness.*

Hypothesis 5a: *The combination of Leader Humor - Follower TLS is positively related to leader effectiveness.*

Hypothesis 5b: *The combination of Leader Humor - Follower TLS is positively related to team effectiveness.*

Hypothesis 6a: *The combination of Leader Humor - Follower TAL is negatively related to leader effectiveness.*

Hypothesis 6b: *The combination of Leader Humor - Follower TAL is negatively* related to team effectiveness.
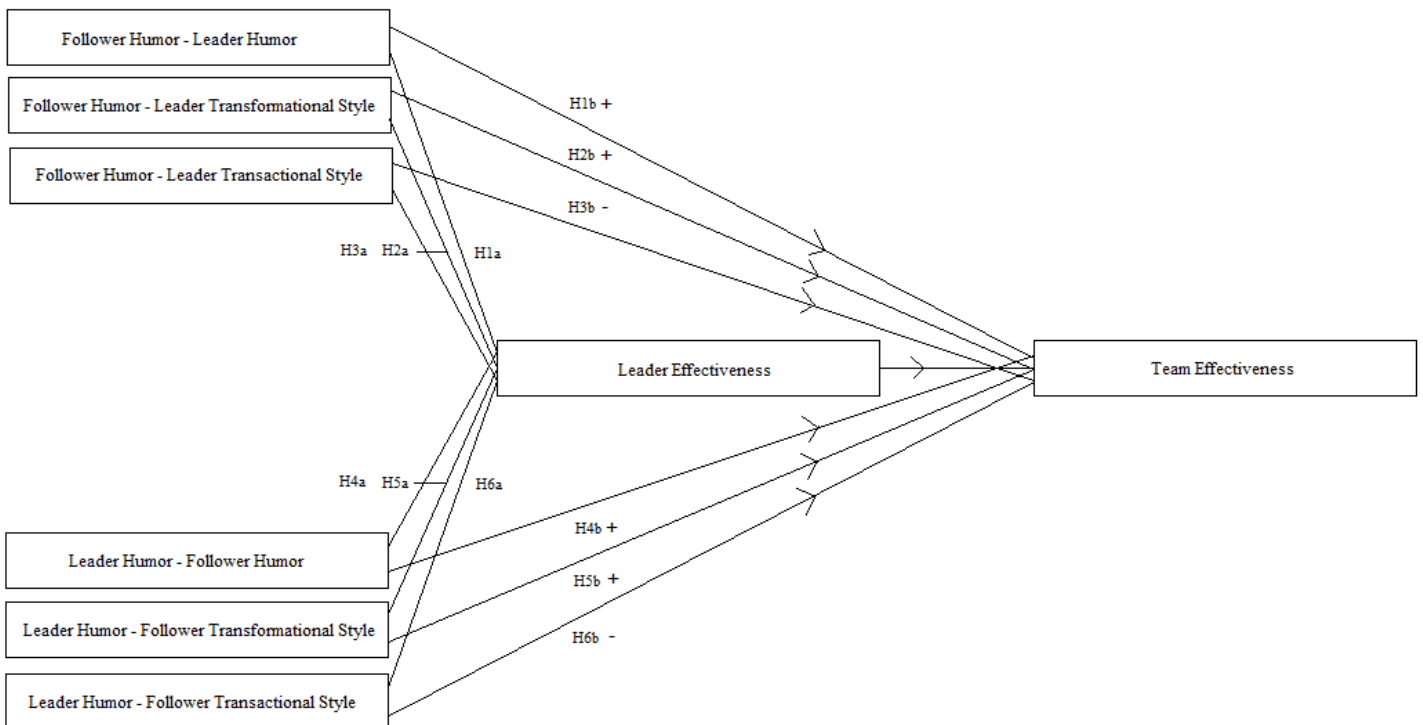

Figure 1. The model of hypothesized leader and follower (humor) behaviors predictors of leader-and team effectiveness.

METHODS

This study used a cross-sectional design with four different data sources that reduces common method bias. 1) three to four expert raters per leader rated the overall effectiveness of the leaders. 2) a survey measured followers' perceptions of transactional leadership style, transformational leadership style, leader effectiveness and team effectiveness, 3) another survey assessed leaders' perceptions of the items listed above, and 4) systematic video-coding of the behaviors exhibited during regular held staff meetings. For this study, unfortunately the expert ratings were not captured, but by using still a variety of three different methods and sources, we restrain common source bias (Podsakoff et al., 2003)

Sampling & Data collection

In total 79 leaders participated in this study. They were employed by a variety of divisions within the tax authorities sector. These leaders worked at several departments in either a middle-management or a first-line supervisory type of position. The leader sample consisted of 20 female leaders and 55 male leaders (4 leaders did not fill in this question). On average, the leaders were 50,21 years old, ranging from 27 to 64 years. The leaders had an average tenure of 9,77 years and they chaired staff meetings with 4 to 29 employees. The follower subsample consisted of 950 followers: 336 females and 559 males (55 followers did not fill in this question). The average age of the follower subsample was 48,99 years, and their average tenure was 11,87 years. The data are treated confidentially.

Measures

   1. **Survey data**

Transformational Leadership Style

The extent to which followers perceive the leaders exhibiting the transformational leadership style is measured through the Multifactor Leadership Questionnaire MLQ (Bass & Avolio, 1995). The transformational leadership style consist of five dimensions:
Idealized Influence Behavior (4 items, α = 0,83); Idealize Influence Attributed (4 items, α = 0,82); Inspirational Motivation (4 items, α = 0,87); Individualized Consideration (4 items; 0,84); and Intellectual Stimulation (4 items, α = 0,65). The response scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Appendix 1 included the items measuring the transformational leadership style. The overall Cronbach alpha was α = 0,92. To test if the individual data is appropriate to aggregate at the team level we calculate the interclass correlation coefficients. The interclass

correlation coefficients consist of two ICC's. ICC1 is the reliability of individual ratings and ICC2 is the reliability of the team's mean ratings (Klein & Kozlowski, 2000). Positive values of ICC1 and a significant ANOVA F value are conditions to aggregate to the team level. ICC2 values above .50 are accepted (Bliese, 2000; Kenny & LaVoie, 1985). The ICC1 of the transformational leadership style MLQ variable was .39 ($p < .01$) and ICC2 was .93 ($p < .01$). These results indicated that the agreement among followers within the team was high enough to aggregate the scores at the team level.

Transactional Leadership Style

Transactional leadership style is assessed with the Contingent Reward (4 items, $\alpha = 0,84$); and the Management by Exception – Active (4 items. $\alpha = 0,85$) dimensions. The answers are given on a 7 point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Earlier studies indicated that CR and MBE-Active typically reflect the transactional leadership style (Antonakis, Avolio, & Sivasubramaniam, 2003; Avolio et al., 2004; Den Hartog et al., 1997). Appendix 2 included the items measuring the transactional leadership style. The overall Cronbach alpha was $\alpha = 0,89$. The ICC1 of the transactional leadership style MLQ variable was .49 ($p < .01$) and ICC2 was .89 ($p < .01$). These results indicated also that agreement among followers within the team was high enough to aggregate the scores at the team level.

Leadership Effectiveness

Leader effectiveness perceived by the followers was measured by 4 items of the MLQ. Items of this scale included: "My supervisor leads a group that is effective", "My supervisor heighten others desire to succeed", "My supervisor is effective in meeting my job-related needs", "My supervisor is effective in meeting organizational requirements". The Cronbach's alpha for this construct was $\alpha = 0,89$. The response categories ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The ICC1 of the leader effectiveness follower score was .67 ($p < .01$) and ICC2 was .89 ($p < .01$).

Team Effectiveness

Team effectiveness was measured with a four item-scale, developed by Gibson, Cooper and Conger (2009). It includes the overall sense of the team effectiveness. Items of this scale included: "Our team is effective", "Our team makes few mistakes", "Our team is a consistently highly performing team" and "Our team provides high quality work". The responses were scored

on a 7 point Likert scale, and ranged from 1 (*totally disagree*) to 7 (*totally agree*). The Cronbach's alpha for this construct was α = 0,89. ICC1 of the team effectiveness score was .68 ($p < .01$) and ICC2 was .89 ($p < .01$).

2. Video data

The 79 leaders and their 950 followers were all being filmed during a randomly selected, regular staff meeting. Before the start of the meeting, the video cameras were located in a fixed place in the meeting room. In a relative short time, the cameras blended into the background (Erickson, 1992; Mead, 1995), and normal behavioral patterns return quickly in such a field setting according to Collier and Collier (1986). We checked the representativeness of the behavior of the leader immediately after each meeting. The attending followers were asked to respond to the following questionnaire item: "How representative did you think the behaviors of the leader were compared to other typical meetings?" The followers scored their leaders' behavioural representativeness using a 7 point Liker scale, ranging from 1 (*not representative*) to 7 (*highly representative*). The average score of all 79 leaders in this study was 5.7, indicating that the leaders' behavior was fairly representative.

For analysing the video behaviors we made use of a behavioural transcription software program "The Observer" (Noldus, Trienes, Hendriksen, Jansen & Jansen, 2000). This program allowed us to code the video-taped leader- and follower behaviors while watching the video tapes. The behaviors were coded using a detailed observation scheme designed and developed by previous studies (e.g. Van der Weide, 2007; Gupta et al., 2009; Nijhuis, Wilderom & Van der Weide, 2009). On the basis of this observation scheme two independent observers per video minutely coded the behaviors. The observers are being trained and used a codebook which included detailed operational definitions of the various behaviors (Van der Weide, 2007; Gupta et al., 2009). The two observers discussed their results with the confusion error matrix and inter-rater reliability output generated by "The Observer". An average inter-rater reliability of 96% or more was required to accept the data. The behaviors are coded in frequencies (how often a specific behavior occurred) and time (duration of the behavior). In this study we make use of the frequencies, which corresponds to prior leadership and managerial work studies (Yukl, Wall & Lepsinger, 1990). The frequencies of the video behaviors are standardized in percentages of the total amount of video coded behaviors.

In the present study our focus was on the observed behavior "humor". In the codebook humor is defined by "Making people laugh, saying something with a funny meaning." When a

team member makes a joke to another team member (on a friendly/kind way!) a score in this category follows. Also laughing about jokes and stories by team members is coded as "humor". Examples of behaviors that occurs in the filmed staff meetings and which are coded as "humor" are: "Hahaha let's do that next time…!", "Hihi, that night was…"

Because of the absence of direct correlations between humor and leader- and team effectiveness, we made a 'Lag Sequential analysis', where humor-behaviors are linked to a subsequent other behavior. A distinction was made between Leader Humor (Lag 0) – Follower Reaction (Lag 1) and Follower Humor (Lag 0) - Leader Reaction (Lag 1). We designed 3 types of (Lag 1) reactions: humor, transformational style, transactional style. The transformational style contains six components of the codebook: agreeing, positive feedback, intellectual stimulation, individualized consideration, humor, personally informing. The transactional style contains three components of the codebook: provide negative feedback, directing/ correcting, verifying. Additional examples of statements are incorporated in Appendix 3.

Control variables

Past research has identified several demographic variables as influential on leadership effectiveness. Some studies have demonstrated that job tenure of the leader (Virany, Tushman & Romanelli, 1992; Cannella & Rowe, 1995) and gender of the leader (e.g. Dobbins & Platz, 1986, Eagly & Johnson, 1990) may affect perceptions of leader- and team effectiveness.

Data analysis

The hypotheses are tested with linear multiple regression analyses that generate estimates of the standardized regression coefficients for the model paths (Cohen, Cohen, West, & Aiken, 2002). Leadership effectiveness and team effectiveness are both dependent variables. For the sample of 79 leaders, the control variables, the variables Leader Humor – Follower reactions and Follower Humor - Leader reactions were entered in a primary- and alternative orderings. We also checked the residuals on normality and interdependency (Moore & McCabe, 2009). Appendix 4 till 7 showed the histograms and scatter plots of the residuals.

RESULTS

Preliminary Analyses

Before the Lag Sequential Analysis we did a prior analyses with the variables humor-frequency and humor-duration, and as expected no direct correlations were found between humor and team- or leader effectiveness.

Table 1 presents the means, standard deviations, and bivariate correlations of the key variables of this study. The combination FHumor-LTAL is significantly related to team effectiveness ($r = -.38$, $p < .01$), therefore, preliminary support is found for hypotheses 3b. Hypothesis 5b presumed that the combination LHumor-FTLS is significant related to team effectiveness for which we also find preliminary support ($r = .27$, $p < .05$). Leader effectiveness is significantly related to team effectiveness ($r = .53$, $p < .01$).

Furthermore, no variable seems to correlate with leader effectiveness, so there's no preliminary support for hypotheses 1a, 2a, 3a, 4a, 5a, 6a.

Hypothesis Testing

The results of the multiple linear regression analyses with the dependent variable leader effectiveness (with sample size n=79) are presented in Table 2. The control variables gender and tenure are entered in the first step of the model. In the regression model none of those control variables are significant. In the primary ordering, Follower Humor-Leader Humor was entered as second, Follower Humor-Leader TLS (3), Follower Humor-Leader TAL (4), Leader Humor-Follower Humor (5), Leader Humor-Follower TLS (6), Leader Humor-Follower TAL (7), but there is no significance, neither in the alternative orderings. These results indicate that hypotheses 1a, 2a, 3a, 4a, 5a and 6a cannot be supported.

Table 3 shows the multiple regression results with team effectiveness as the dependent variable. We tested hypotheses 3b and 5b in a regression analysis. The control variables gender and tenure are entered in the first step. In the model of team effectiveness, tenure is not significant. Gender is significant in the first steps, but decreases and disappears in the subsequent steps. In the primary ordering, the combination FHumor-LTAL is entered as fourth in the model and is negatively significant in step 4, step 5, step 6 and step 7. In the alternative ordering (1), the combination FHumor-LTAL is entered in the last step of the model and the beta is significant in the seventh step ($\beta = -.27$, $p < .05$) and also the model is significant ($F = 2,79$, $p < .05$). These findings offer support for hypotheses 3b.

The combination LHumor-FTLS was entered in the primary ordering in the sixth step and the variable was positively significant in the sixth (β = .40, p < .05) and seventh (β = .36†, p< .05) step. The model was highly significant in step 6 (F = 2,98, p < .01) and also significant in step 7 (F = 2,79, p < .05). These results indicate that hypotheses 5b was also supported.

Figure 2. The model of beta's in relation to leader effectiveness and team effectiveness.

Residual Analyses

We also analyse the residuals of the regression model with dependent variables leader effectiveness and team effectiveness. In appendix 4 till 7 the histograms and scatterplots of the residuals are showed. The residuals are approximately normally distributed. The scatterplots show no pattern and are centred around zero. We checked some outliers and keep them out of the model, but these outliers had no impact on the results of the regression models.

DISCUSSION

The purpose of this study is to examine the role of humor and interactions following humor on team and leader effectiveness. According to the literature, humor – in combination with a reaction i.e. humor patterns, and not humor statements alone, are relevant to performance outcomes (Lehman-Willenbrock, 2014). According to Romero and Cruthirds (2006), humor is a "basic element of interaction", and interaction is essentially reciprocal. Logically, humor is considered as part of a process, instead of humor behavior alone. We checked this assumption with our data, and as expected, we found no direct correlation between humor behavior and team or leader effectiveness.

Through video-based data, the frequencies of humor behaviors were obtained, as well as other relevant transformational- and transactional behaviors of both, leaders and followers. We transformed these data into interaction sequence tables (Lag Sequential Analysis), to determine how often specific behavior (humor) was followed by another behavior, and we calculated the so-called transition probabilities. The following combinations are designed, given the available coded behaviors:

Follower Humor – Leader Humor

Leader Humor – Follower Humor

Follower Humor – Leader Transformational

Leader Humor – Follower Transformational [*]

Follower Humor – Leader Transactional [*]

Leader Humor – Follower Transactional

We linked the video to the survey-based data about the effectiveness scores, and executed linear multiple regression analyses. A strongly negative correlation between F Humor - L TAL and team effectiveness is found, which indicates the importance and power of a leader's reaction on performance. These results support earlier findings about the importance of leadership within interaction processes (Kahai, Sosik, & Avolio, 1997; Tarricone & Luca, 2002, McIntyre et al. 1995, Oser et al. 1989). Stout et al. (1999) distinguished team processes into "taskwork" and "teamwork", whereby taskwork focuses on the accomplishment of tasks, and teamwork describes the interaction processes. Apparently, the adverse reaction of the leader on follower Humor, which is an important element of teamwork, affects also the taskwork processes and influences the team effectiveness negatively.

Teams interact in order to achieve common goals, and Waller et al. (2004) noted that specific interaction patterns between team members enhances team effectiveness. This is in line with

our findings, were the combination L Humor – F TLS, significantly correlates with team effectiveness.

However, our finding that specific interaction patterns (F Humor – L TAL) can also decreases the level of team effectiveness, has not yet been reported before in the literature. A contrary reaction of a follower (L Humor – F TAL) seems to have less impact on interaction processes; and has therefore no effect on effectiveness. Remarkably, the combination 'Humor – Humor' displayed by either the leader or the follower, has no correlation with effectiveness. An explanation for this could be that humor is transformational-related, and work teams, dependent of their functions, always have to be task oriented (transactional) to some degree. Several scholars have tested a positive effect of transformational- in combination with the transactional style on team effectiveness (Bass, 1985; Lowe et al., 1996). According to Hackman (1986), team effectiveness comprises three aspects: productivity, learning and viability. At the same time, humor is related to individual and team performance (Avolio et al., 1999), because humor produces an increase in psychical and psychological energy (Dienstbier, 1995). Consequently, it seems to be that humor is only effective as long as it serves productivity and learning through communication, leadership, and collective cognitions. If the function of humor disappears, which happens in a 'humor-reaction' pattern, the contribution to team effectiveness is ignorable.

Practical Implications

Followers and leaders have not understood yet when the use of humor is helpful and when it can be harmful. The results of this study imply that a task-oriented reaction of the leader on a joke of a follower is not effective for the team effectiveness. This study also shows how humor displayed by the leader can enhance the leader-follower interaction process, but this works only if the followers are seem to behave in a transformational fashion. It can be useful that both, team members an followers are aware of the functions of humor. If the leader understands the group dynamics and interaction processes within his/her team, humor might be a 'valuable management tool'. This study considered humor as part of a 'pattern' and clarifies which other behaviors in combination enhances or decreases effectiveness. This study's results offer insights for organizational recruitment and selection policies. We have noted that humor is essential in some cases, but it can be also superfluous when the team members are predominantly task-oriented. With more research, the insights can lead to other team compositions with humor-selected leaders.

Strengths, limitations and future research directions

The strength of this study is that different sources and methods are used to reduce common method bias. In addition, the adoption of a video-observation method enables us to examine behavior sequences. Leader- and team effectiveness is measured by the perceptions of the followers, and the behavioral combinations are measured with naturalistic observations. The video-observations helped in reducing the common method bias, but also enable us to filter and analyse more specific behaviors and their exact frequencies. With a detailed observation scheme based on various academic sources, and a double-check by another observer, this information gives an reliable insight in leader- and follower behaviors.

In this study we were interested in analysing behavior 'patterns', but with the behavioral transcription software "The Observer", we were only able to code frequencies and durations of behaviors. With special designed tables in Excel we obtained all possible behavioural combinations and their probabilities (lag 1). In the future, Transcription Software that recognized patterns of interaction could provide many new insights in more complex interactions.

79 leaders and their 950 followers were filmed, during randomly selected regular staff meeting. The size of this sample is large enough, but a limitation is that only first-line and middle managers were studied. According to Pavet & Lau (1983), different hierarchical positions may require different managerial behaviors, and therefore external generalizability is threatened. The results of this study still provide insights in the role of humor within interaction processes and show the impact of a leader's negative reaction on humor. The effects are presumably comparable within al hierarchical layers, because within al sections and divisions of organizations approximately the same interrelations between followers and leaders subsist.

Because we were interested in behavioral combinations with Humor on effectiveness, parts of the Lag Sequential Analysis are used. Sequential analysis is not a single unified statistical topic, like the analysis of variance or multiple regression (see Chiu and Khoo, 2005 for detailed critics). It is the application of a number of existing techniques to sequential data. Previous articles stressed the binomial test z score and lag-sequential (e.g., Bakeman, 1978; Bakeman & Dabbs, 1976; Sackett, 1979) and some articles advocate to use the z score formula and suggested log-linear analyses. Because we designed 'new combination variables', using the transition probabilities, we tested for effectiveness through the multiple regression method. To check, the data were converted into z-values and evidently the outputs were exactly the same.

In this study, the focus was on positive humor, but we didn't distinguish between the different styles of humor (e.g. affiliative, self-enhancing, or self-defeating). Future research should differentiate between these styles and explore also the effects of negative humor. Research about when different humor styles are displayed, and if it depends on personal characteristics, team characteristics and/ or the environmental conditions would give many new insights in groups dynamics and interaction patterns.

Interesting to include within this research area is the 'work climate'. Interaction processes play a crucial role within work climate, and vice versa team member's reactions are influenced by the work climate. Work climate can be measured through 'The Positive and Negative Affect Schedule (PANAS)', a 20-item self-report measure of positive and negative affect developed by Watson, Clark, and Tellegen (1988). Within our questionnaire 8 items were included: Enthusiastic, Interested, Inspired, Proud (PA), and Afraid, Angry, Nervous, Irritated (NA). Within the model of this study, we tested both PA and NA as moderator and mediator, but unfortunately no relevant results were obtained. An explanation could be that the 8 tested items not comprises all aspects of the work climate. For future research, it is interesting to investigate the role of humor, different humor styles and their subsequent reactions within both positive- and negative work climates.

In conjunction with different styles of humor, future research should explore the gender differences. "Woman tend to be supportive in their communication style, and men competitive" (Aries, 1976; Edelsky, 1981; Fishman, 1983; Maltz and Borker, 1983; Coates, 1986; Preisler, 1986). Also Dwyer (1991) noted that the effectiveness of humor depends on the 'status' of its initiator, target, and audience. Literature on gender and communication has grown considerably over the last years, but within the leadership literature gender differences are not concerned very often. For future research it is interesting to investigate the use of humor, the different humor styles and the impact on effectiveness for both men and woman.

CONCLUSION

This study addressed some gaps in the literature on positive humor in organizations. First, we noted that humor is a 'basic element' of interaction processes, and interaction is a reciprocal action or influence. This implies that 'humor patterns' or 'humor – reactions' , and not humor attempts by themselves, can be related to team- or leader effectiveness. Preliminary analyse supported this expectation: humor statements alone were not directly related to performance outcomes.

Video-data were obtained and with a Lag Sequential Analysis, interaction sequence matrices were generated, in order to determine how often one behavior (lag 0) was followed by another (lag 1), and probabilities were calculated. We were interested in testing hypotheses containing various humor-reaction patterns: Follower Humor – Leader Reaction and Leader Humor – Follower Reaction. The effectiveness scores were measured by different sets of items of the Multilevel Leadership Questionnaire (MLQ).

In the next step, the six 'new designed variables' were tested through the multiple linear regression method. This study shows that the combination Follower Humor – Leader TAL is negatively related to team effectiveness. Thus when the leader reacts in a transactional way (very task-oriented) on humor expressed by a follower, team effectiveness decreases. This could be explained as follows: the leader 'blocks' the humor reaction by reacting task oriented (he/she ignores the joke), so the exchange process on this point of humor stopped. This reaction generates a negative signal toward the initiator, but also toward the other followers in the meeting. Instead of facilitating interaction processes, by reacting positively to the follower display of humor, which is essential for team performance, the leader focuses on tasks.

The combination Leader Humor – Follower TLS is positively related to team effectiveness. This implies that humor displayed by the Leader has only positive impact when the followers react in a transformational way (more relation-oriented).

This study focuses on both; leader- and team effectiveness, but the results are only significant for team effectiveness. This could be explained as follows: Interaction processes (humor) occurs in a social setting, and these processes are more relevant for the team as a whole than for the individual leader. Our results show that the reaction of the leader on humor expressed by a follower has far-reaching consequences for team effectiveness. Apparently, the leader is important within interaction processes around humor, but the humor interaction processes are

not essential for leader effectiveness. This makes interaction processes of humor less important for leader effectiveness, than for team effectiveness.

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Appendix 1: Survey items which are used to measure Transformational Leadership

Idealized Influence Behavior (4 items, α = 0,83):

My leader talks about his/ her most important values and beliefs

My leader specifies the importance of having a strong sense of purpose

My leader considers the moral and ethical consequences of decisions

My leader emphasizes the importance of having a collective sense of mission

Idealize Influence Attributed (4 items, α = 0,82):

My leader instils pride in me for being associated with him/her

My leader goes beyond the self-interest for the good of the group

My leader displays a sense of power and confidence

My leader provides complete trust

Inspirational Motivation (4 items, α = 0,87)

My leader talks optimistically about the future

My leader talks enthusiastically about what needs to be accomplished

My leader articulates a compelling vision of the future

My leader expresses confidence that goals will be achieved

Individualized Consideration (4 items, α = 0,84)

My leader spends time to teaching and coaching

My leader treats me as an individual rather than just a member of the group

My leader considers me as having different needs, abilities, and aspirations that others

My leader helps me to develop my strengths

Intellectual Stimulation (4 items, α = 0,65)

My leader re-examines critical assumptions to question whether they are appropriate

My leader seeks differing perspectives when solving problems

My leader gets me to look at problems from many different angles

My leader suggests new ways of looking at how to complete assignments

Appendix 2: Survey items which are used to measure Transactional Leadership

Contingent Reward (4 items, α = 0,84)

My leader provides me with assistance in exchange for my efforts

My leader discusses in specific terms who is responsible for achieving performance targets

My leader expresses confidence when I meet expectations

My leader makes clear what one can expect to receive when performance goals are achieved

Management by Exception - Active (4 items, α = 0,85)

My leader concentrates his/her full attention on mistakes, complaints and failures

My leader concentrates his/her full attention on dealing with complaints

My leader keeps track of all mistakes

My leader direct my attention toward failures to meet standards

Appendix 3: Behavioral Coding Scheme (Verbal)

Category	Behavior		Definition	Examples
Self -Defending	1	Showing disinterest	Not showing any interest, not taking problems seriously, wanted to get rid problems and conflicts	Not actively listening, talking to others while somebody has the speaking term, looking away
	2	Defending one's own position	Protecting the own opinion or ideas, emphasizing the own importance	"We are going to do it my way." Blaming other people
	3	Providing negative feedback	Criticizing	"I don't like that…" "But we came to the agreement that…, and now…"
Steering	4	Disagreeing	Contradicting ideas, opposing team members	"That is not correct" "I do not agree with you"
	5	Agreeing	Saying that someone is right, liking an idea	"That is a good idea" "You are right"
	6a	Directing/ Correcting	Telling others what (not) to do	"I want that…" "In this school are the rules…"
	6b	Directing/ Delegating	Delegating / dividing tasks	"Kees, I want you to…" "Marrie , you take for your account…"
	6c	Directing/ Interrupting	Interrupt someone	Interrupting a team member
	7	Verifying	Getting back to previously made agreements/vision/norms	"We came to the agreement that…"
	8	Structuring the conversation	Giving structure by telling the agenda, start/ end time etc.	"The meeting will end at…" "We are going to have a break now"
	9	Informing	Giving factual information	"The final result is…"
	10a	Visioning/ Short Term	Giving a short term direction, own opinion	"I think that…" "In my opinion…"
	10b	Visioning/ Long Term	Giving a long term direction, vision, mission, long term strategy	"Our vision is…" "What do we want to achieve in the upcoming years?"
Supporting	11	Positive feedback	Rewarding, complimenting	"Well done"
	12	Intellectual stimulation	Asking for ideas, inviting people to think along or come up with own ideas, brainstorming	"What do you think is the best way to…?" "What is your opinion about…?"
	13	Individualized consideration	Rewarding, complimenting, encouraging, being friendly, showing empathy	"Good idea, thank you" "You did a great job" "Welcome" "How are you?"
	14	Humor	Making people laugh, saying something with a funny meaning	Laughing, making jokes
	15	Personally informing	Giving non-factual, but private information	"Last week, my wife…"
	16	Listening		
Independent	17	Null-Behavior	Working on own tasks without communicating with other team members	Working on own tasks, calling with a client

TABLE 1

Means, Standard Deviations and Correlations of Leader Effectiveness, Team Effectiveness and the independent variables of the study (*n*=79)

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Gender	1.36	.21									
2. Tenure	11.03	6.05	-.28*								
3. Leader Effectiveness	5.36	.52	.10	-.06							
4. FHumor-LHumor	108.01	119.19	.07	.00	.19						
5. FHumor-LTLS	187.41	144.63	-.03	.03	.08	.73**					
6. FHumor-LTAL	43.65	57.94	.16	-.18	-.17	-.02	-.03				
7. LHumor-FHumor	30.86	30.05	-.07	.07	.09	.47**	.44**	.10			
8. LHumor-FTLS	48.57	35.93	-.18	.02	.13	.17	.31**	-.02	.64**		
9. LHumor-FTAL	7.44	15.49	.20	.04	.06	.05	-.03	.08	-.12	-.30	
10. Team Effectiveness	5.02	.57	-.20	-.06	.53**	.12	.10	-.38**	.08	.27*	.18

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

TABLE 2

Regression Results on Leader Effectiveness (*n*=79)

Variables	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Primary ordering							
Gender	.09	.08	.08	.10	.11	.12	.11
Tenure	-.03	-.04	-.03	-.05	-.06	-.04	-.05
FHumor-LHumor		.16	.26	.27	.22	.26	.26
FHumor-LTLS			-.13	-.14	-.16	-.19	-.19
FHumor-LTAL				-.12	-.14	-.13	-.14
LHumor-FHumor					.14	.01	.01
LHumor-FTLS						.16	.18
LHumor-FTAL							.08
Δ R2	.01	.27	.07	.01	.01	.01	.01
R2	.01	.04	.05	.06	.07	.08	.09
Alternative ordering 1							
Gender	.09	.11	.12	.11	.10	.09	.11
Tenure	-.03	-.04	-.03	-.04	-.04	-.03	-.05
LHumor-FHumor		.16	.08	.07	-.02	-.03	.01
LHumor-FTLS			.10	.13	.16	.19	.18
LHumor-FTAL				.07	.06	.06	.08
FHumor-LHumor					.13	.27	.26
FHumor-LTLS						-.19	-.19
FHumor-LTAL							-.14
Δ R2	.01	.02	.01	.00	.01	.01	.02
R2	.01	.04	.04	.05	.06	.07	.09
Alternative ordering 2							
Gender	.09	.12	.12	.11	.11	.09	.11
Tenure	-.03	-.03	-.03	-.04	-.04	-.03	-.05
LHumor-FFTLS		.16	.10	.13	.13	.20	.18
LHumor-FHumor			.08	.07	.08	-.03	.01
LHumor-FTAL				.07	.07	.06	.08
FHumor-LTLS					-.01	-.19	-.19
FHumor-LHumor						.27	.26
FHumor-LTAL							-.14
Δ R2	.01	.03	.00	.00	.00	.03	.02
R2	.01	.04	.04	.05	.05	.07	.09
Alternative ordering 3							
Gender	.09	.11	.10	.10	.09	.11	.11
Tenure	-.03	-.05	-.05	-.05	-.05	-.06	-.05
FHumor-LTAL		-.12	-.12	-.12	-.12	-.14	-.14
FHumor-LHumor			.16	.27	.26	.21	.26
FHumor-LTLS				-.14	-.13	-.16	-.19
LHumor-FTAL					.03	.05	.08
LHumor-FHumor						.15	.01
LHumor-FTLS							.18
Δ R2	.01	.01	.03	.01	.00	.02	.01
R2	.01	.03	.05	.06	.06	.08	.09

Note: Standardized regression coefficients are displayed in this table:

* *p* < .05, two-tailed. ** *p* < .01, two-tailed. † *p* < .05, one-tailed. †† *p* < .01, one-tailed.
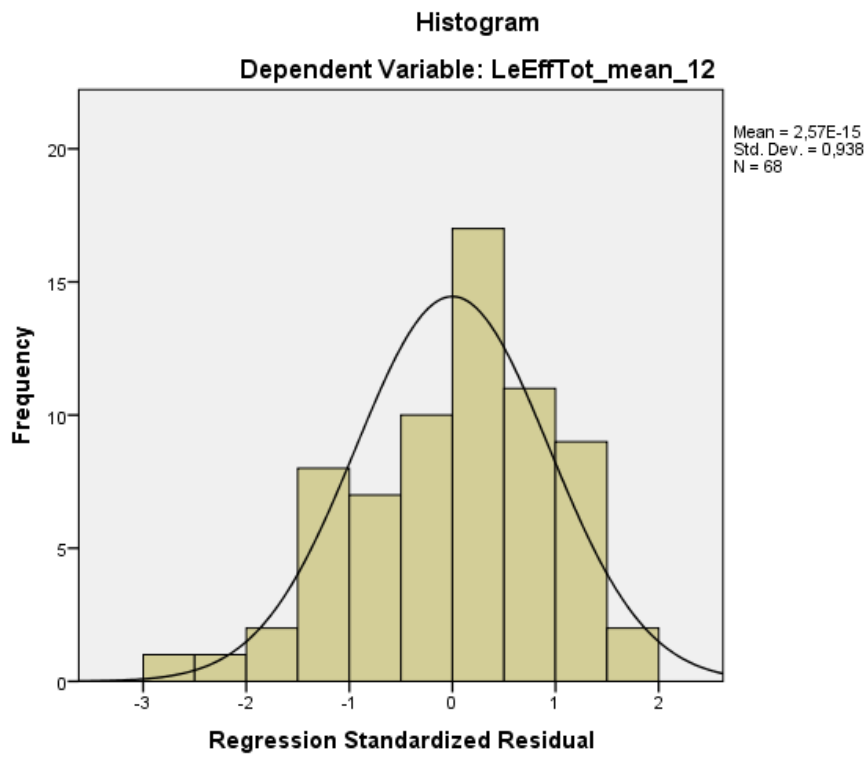
TABLE 3

Regression Results on Team Effectiveness (*n*=79)

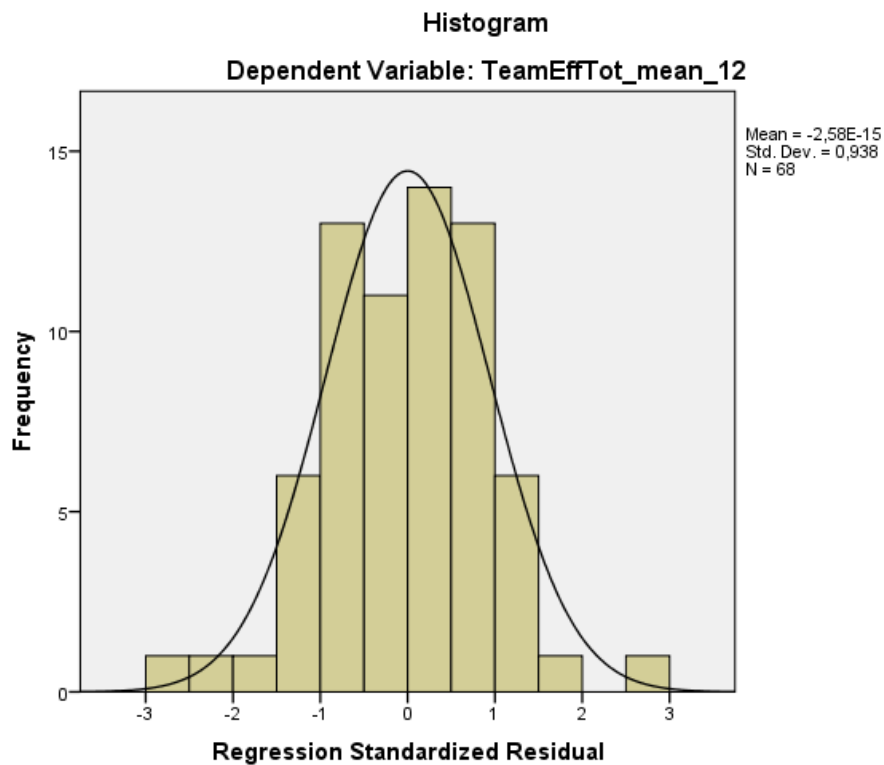| Variables	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Primary ordering							
Gender	-.29*	-.30*	-.30*	-.25*	-.23†	-.21†	-.18
Tenure	-.14	-.14	-.14	-.18	-.19	-.16	-.15
FHumor-LHumor		.11	.12	.13	.08	.20	.21
FHumor-LTLS			-.01	-.03	-.06	-.14	-.14
FHumor-LTAL				-.30*	-.32*	-.29*	-.27*
LHumor-FHumor					.15	-.17	-.16
LHumor-FTLS						.40*	.36†
LHumor-FTAL							-.14
Δ R2	.08	.01	.00	.08	.02	.06	.02
R2	.08†	.09	.09†	.17*	.19*	.26**	.27*
Alternative ordering 1							
Gender	-.29*	-.28*	-.24†	-.22†	-.23†	-.23†	-.19
Tenure	-.14	-.15	-.12	-.11	-.11	-.10	-.15
LHumor-FHumor		.13	-.15	-.14	-.23	-.23	-.16
LHumor-FTLS			.39*	.33†	.36*	.39*	.36†
LHumor-FTAL				-.16	-.17	-.17	-.14
FHumor-LHumor					.13	.23	.21
FHumor-LTLS						-.13	-.14
FHumor-LTAL							-.27*
Δ R2	.08	.02	.07	.02	.01	.01	.01
R2	.08†	.10*	.17*	.19*	.20*	.21*	.27*
Alternative ordering 2							
Gender	-.29*	-.25*	-.24†	-.22†	-.22†	-.23†	-.19
Tenure	-.14	-.13	-.12	-.11	-.11	-.10	-.15
LHumor-FFTLS		.27*	.39*	.33†	.33†	.39*	.36†
LHumor-FHumor			-.15	-.14	-.15	-.23	-.16
LHumor-FTAL				-.16	-.16	-.17	-.14
FHumor-LTLS					.02	-.13	-.14
FHumor-LHumor						.23	.21
FHumor-LTAL							-.27*
Δ R2	.08	.07	.01	.02	.00	.02	.07
R2	.08†	.16*	.17*	.19*	.19*	.21*	.27*
Alternative ordering 3							
Gender	-.29*	-.24†	-.25*	-.25*	-.21†	-.20	-.19
Tenure	-.14	-.18	-.18	-.18	-.16	-.17	-.15
FHumor-LTAL		-.30*	-.30*	-.30*	-.28*	-.29*	-.27*
FHumor-LHumor			.11	.13	.15	.11	.21
FHumor-LTLS				-.03	-.05	-.07	-.14
LHumor-FTAL					-.21	-.19	-.14
LHumor-FHumor						.11	-.16
LHumor-FTLS							.36†
Δ R2	.08	.08	.01	.00	.04	.01	.05
R2	.08†	.17**	.18*	.18*	.22*	.23*	.27*

Note: Standardized regression coefficients are displayed in this table:

* *p* < .05, two-tailed. ** *p* < .01, two-tailed. † *p* < .05, one-tailed. †† *p* < .01, one-tailed.
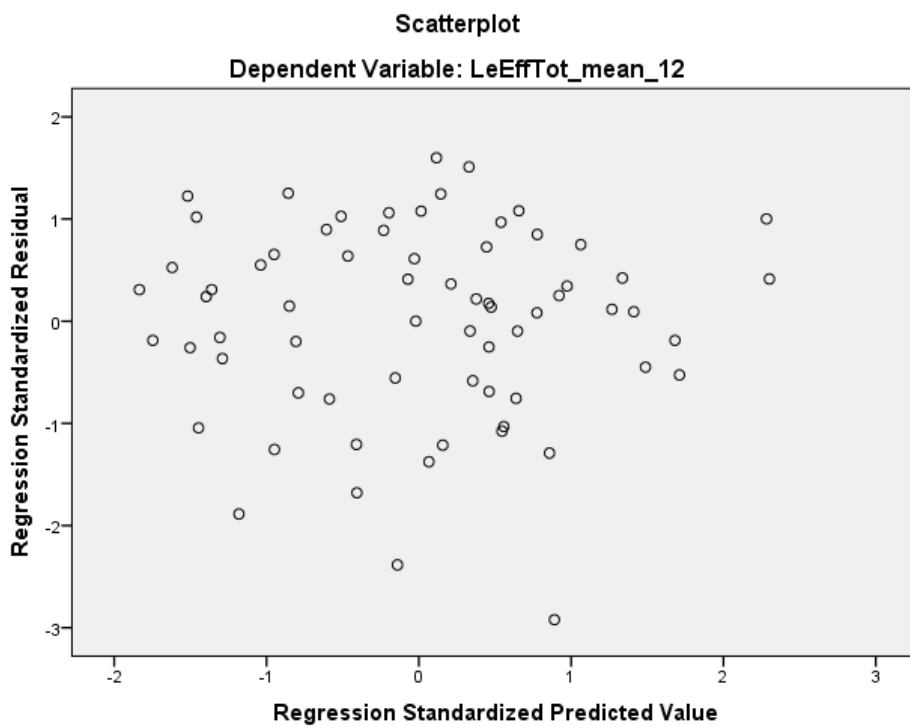
Appendix 4: Histogram Residual Analysis of Leader Effectiveness

Appendix 5: Histogram Residual Analysis of Team Effectiveness

Appendix 6: Scatterplot Residual Analysis of Leader Effectiveness

Appendix 7: Scatterplot Residual Analysis of Team Effectiveness