Group-Centered Leading Factor as a Scale for Measuring Altruism


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The study (Cerff, 2006) on which this paper is based, investigated whether there is a connection between hope, self-efficacy and motivation to lead (MTL) in the development of leaders in South Africa. The data collected for the MTL component were gathered using a revised two-factor model of Chan’s (1999) MTL Instrument, comprising the Leading For Self-Benefit Factor (MTL-S) and the Group-Centered Leading Factor (MTL-G). The revised two-factor model of Chan’s (1999) MTL Instrument is a meaningful redevelopment of Chan’s MTL Instrument for the South African context and potentially in other nations as well. The Group-Centered Leading Factor, comprising seven items, is of particular interest as a scale for measuring altruism. This research makes a contribution to servant leadership by establishing the connection between MTL-G and altruism, and adds a valuable dimension to the research of Patterson (2003).

Introduction

The original study (Cerff, 2006) on which the premises of this paper are based, investigated whether there is a connection between hope, self-efficacy and motivation to lead (MTL) in the development of leaders in South Africa. The continent’s history of colonialism, oppression, and decolonization formed the background for exploring the relationships between the variables, and the possibility that the residual effects of history have negatively impacted the sense of hope, self-efficacy and MTL among some ethnic groups.

This research investigated the role of hope and self-efficacy as two variables on the motivation to lead (MTL) in the development of leaders in the South African college student context.
For the purpose of this study, it was decided to focus on college students due to their potential and capacity to form a significant core of the future leader pool in South Africa.

Chan's (1999) study in Singapore and the United States using his newly developed MTL Instrument indicated high reliability for the three subscales of MTL. Following the differences in reliability of Chan’s study and that of the South African context, a revised two-factor model of Chan’s (1999) MTL Instrument, comprising the Leading For Self-Benefit Factor (MTL-S) and the Group-Centered Leading Factor (MTL-G) was developed (Cerff, 2006).

This paper will present a summary of the pertinent constructs, provide an overview of the background, and describe the redevelopment Chan's (1999) MTL Instrument to produce the revised two-factor model applicable in a South African context, and motivate the use of the factor, Group-Centered Leading Factor, as a scale for measuring altruism.

**Summary of Constructs**

**Motivation to Lead**

Chan (1999) defined Motivation to Lead (MTL) as a field of study of the factors or processes “that affect a leader’s or leader-to-be’s decisions in relation to the assumption of leadership training, roles and responsibilities, his or her intensity of effort at leading, and his or her persistence as a leader of a group” (p. 4). According to Chan, the factors that affect each of these behavioral criteria could include individual differences and situational variables. Chan focused on clarifying individual differences that affect MTL. These individual differences in MTL may be “relatively stable over time, barring any major interventions or life events” and may “interact with the person’s vocational or life-domain interests and abilities to predict leadership behaviors” (p. 4). It is assumed that these individual differences in MTL will “interact with characteristics of the situation” and affect “individual decisions to lead in specific situations” (p. 5). Chan argued that individual differences can change through training and experience in leadership and pointed out that “individual differences are an immediate outcome of one’s leadership self-efficacy and accumulated leadership experience which are in turn affected by cultural values and beliefs, personality, cognitive and social responsibilities” (p. 5). Chan emphasized that the research is not a revival of the Great Man approach to leadership nor that the research has assumed that individuals have “unconscious needs for achievement, power or affiliation that drive their MTL” (p. 5); rather, the key of the approach is based on “the assumption that leadership skills, one’s leadership style and the meaning of leading can be learned, and that MTL can be changed” (p. 5). Chan noted that the construct of self-efficacy was borrowed from Bandura’s (1986) general cognitive theory “to account for individual differences in MTL” (p. 5) and concluded that MTL “suggests that individual differences are indirectly related to performance criteria, that non-cognitive constructs such as personality and values may be linked to leadership performance through the process of leadership development” (p. 86). The theory indicates substantial opportunities for further research. However, the application of known principles associated with MTL may prove conducive to leadership development, particularly since MTL can be positively affected.
Chan and Drasgow (2001) confirmed Chan's (1999) earlier research that leadership self-efficacy and experience are related to MTL and that “MTL is affected by stable traits like personality but also that MTL is a dynamic construct that is partially changeable through social-learning processes and experience” (p. 504). Chan and Drasgow asserted the usefulness of this insight “for system-level design of both leadership selection and development programs in organizations” (p. 504).

Chan et al. (2001) described the three correlated dimensions in which MTL can be conceptualized and measured. Chan et al. noted that individuals who score high in the first dimension, affective/identity MTL, like to lead and see themselves as leaders, tend to be outgoing and sociable, value competition and achievement, have more past leadership experience than their peers, and are confident in their own leadership abilities; indicating high levels of self-efficacy. Individuals who score high in the second dimension, social-normative MTL, are motivated by a sense of social duty and obligation and are accepting of social hierarchies yet rejecting of social equality. Individuals who score high in this dimension possess similar qualities relating to leadership experience and confidence in their leadership abilities as those who score high in the first dimension. The third dimension, noncalculative MTL, is indicative of individuals who are not calculative about leading. According to Chan et al., sociocultural values play a more important role in noncalculative MTL and are collectivistic in nature, while individualistic values are negatively related to noncalculative MTL. Chan et al. noted, “agreeableness and emotional stability are fairly consistently and significantly related to Non-Calculative MTL, while leadership self-efficacy and past experience are not consistently or significantly related to Non-Calculative MTL” (p. 228). Chan et al. proposed that “leadership development takes place through a cycle that begins with MTL (that has as its antecedents personality, values, leadership self-efficacy, and leadership experience)” (p. 242). Since MTL affects the participation of individuals in leadership roles and training, “leading to the acquisition of leadership skills and knowledge” (p. 242), focusing on enhancing MTL, will be helpful in the context of leadership development. Chan et al. stated that the acquisition of “skills and knowledge contribute toward an individual’s leadership experience” (p. 242), thereby increasing the individual’s levels of self-efficacy and MTL.

Erickson’s (2005) study of the relationships between individual differences, leadership self-efficacy, leadership experience, collective efficacy, and MTL demonstrated a similarity to Chan’s (1999) previous research; thereby suggesting that “the MTL construct is valid and reliable in settings similar to this sample and those studied previously” (Ericksen, p. 91). Ericksen noted that this finding “represents a significant contribution to literature since it broadens the applicability of the MTL construct” (p. 91). Ericksen made a variety of recommendations for research in the MTL field, one of which was the influence of training on MTL, relating to the development of leaders in the South African context. Cerff’s (2006) study examined the antecedents of hope and self-efficacy on MTL, thereby exploring the situational effects that these relationships have on the development of leaders.

Altruism

Sykes (1980) defines altruism as a “regard for others as a principle of action; unselfishness” (p. 29) and is derived from the Latin alter, meaning other. The concept is central to many religious
traditions. Limited literature is available that explores altruism. Monroe (1994) points out that self-interest and altruism are at two ends of a continuum, and notes, “this juxtaposition of altruism with self-interest is important precisely because so much social and political theory is constructed on the norm of self-interest” (p. 863).

Patterson (2003) lists altruism as one of the seven constructs of servant leadership in her theoretical model, and points out, “scholarly interest in altruism dates back to the early 1800’s” (p. 16) and defines altruism as “helping others just for the sake of helping” (p. 17). Kaplan (2000) observed that altruism benefits others, often involving a risk or sacrifice that is against the personal interests of the individual extending altruism. Monroe (1994) points out four critical factors relating to altruism, namely that altruism must involve action; secondly, “the goal of the act must be furthering the welfare of the other” (p. 862); thirdly, “intentions count more than consequences” (p. 862), hence a well-intentioned action that has negative consequences remains altruistic; and fourthly, “the act must carry some form of diminution to my welfare” (p. 863), since an act which does not cost the individual extending altruism anything would fall into the category of “collective welfare” (p. 863).

DeYoung (2000) added to the traditional view of altruism by including the concept that individuals derived personal pleasure from helping others. Patterson (2003) notes, “altruism seeks the fulfillment of others with behavior directed toward the benefit of others, and identifies this behavior as consistent with servant leadership” (p. 17). According to Berry and Cartwright (2000), servant leaders seek radical equality in the treatment of all people, thereby demonstrating an altruistic approach.

From a biblical perspective, the concept of altruism is both encouraged in practice and commanded as behavior in keeping with practicing Christians. Leviticus 19:18 states, “You shall not take vengeance, nor bear any grudge against the sons of your people, but you shall love your neighbor as yourself; I am the Lord.” Jesus reiterates the greatest commandments in Mark 12:31-32, quoting Deuteronomy 6:4 and Leviticus 19:18, “‘And you shall love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength.’ And the second is this, ‘You shall love your neighbor as yourself.’”

Altruism as described in a biblical context supports the literature and indicates the motivation for a behavior change away from self-centered tendencies towards embracing and advancing the principles described in the scriptures, as noted. It would be expected that practicing Christians as well as other individuals who demonstrate a selfless motivation would demonstrate altruistic behavior.

The Development of Chan’s MTL Instrument
In the development of his MTL Scale, Chan (1999) commenced with 46 MTL items that were included in the survey “constructed by the researcher through focus group interviews with American and Singaporean students in the University of Illinois during the Spring-semester of 1998” (p. 26).

Following Chan’s initial survey, he conducted three small-scale surveys with students from the same university that led to the identification of three factors underlying MTL, namely Affective-Identity MTL (AIMTL), Social-Normative MTL (SNMTL), and Non-Calculative MTL (NCMTL) (Chan’s instrument is provided in Appendix A). In his 1999 study, Chan found strong, significant and direct relationships between AIMTL, extraversion, vertical-individualism, leadership self-efficacy and experience. Chan found strong, significant and direct relationships between SNMTL, agreeableness, conscientiousness, horizontal-collectivism, vertical-collectivism, horizontal-individualism, vertical-individualism, leadership self-efficacy and experience. Chan also found strong, significant and direct relationships between NCMTL and agreeableness, emotional stability, horizontal-collectivism, vertical-collectivism, horizontal-individualism and vertical-individualism.

At this stage Chan dropped 19 items, rewrote others to produce an MTL Scale that comprised 27 items. Chan’s 1999 study consisted of three samples, namely Singapore military recruits, Singapore Junior College students and undergraduate students from the University of Illinois, thus comprising a variety of ethnicities representing different cultures on two continents.

Chan (1999) recorded the Cronbach alpha scores for the three subscales of the MTL scale, as being .84 for the AIMTL, .83 for the SNMTL, and .74 for the NCMTL. Chan’s Cronbach alpha scores indicate high reliability of the instrument.

The Redevelopment of the MTL Scale

In Cerff’s (2006) study carried out in a South African context, some differences between the reliability in the Singapore and USA context and that of the South African context were found. In the initial analyses, the Cronbach alpha scores that were reported were disappointing. The Cronbach alpha score for the AIMTL subscale was .09, for the NCMTL subscale .26, and for the SNMTL subscale .59. Following this poor to mediocre reliability, further analyses were conducted. The SNMTL subscale indicated weakness, but by removing MTL item 23, the reliability improved and a Cronbach alpha score of .68 was reported. This finding prompted further analysis.
MTL factor analysis was then conducted using factor loadings of .5 and two factors emerged that explained 54% of the variance. The Leading For Self-Benefit Factor is characterized by a self-centered motivation in leading and comprises six items, namely 14, 19, 27, 29, 33 and 45 with a Cronbach alpha score of .75. The Group-Centered Leading Factor is characterized by leading focused on the group’s interests and comprises seven items, namely 6, 11, 25, 30, 32, 39 and 44 with a Cronbach alpha score of .77. The first new factor, Leading For Self-Benefit Factor, is abbreviated as MTL-S indicating the focus on self. The second new factor, Group-Centered Leading Factor, is abbreviated as MTL-G indicating the focus on the group.

These new Cronbach alpha scores indicate high reliability and thereby greatly increase confidence in the empirically derived revised model that was adapted for the South African context. Since the factor analysis of the items did not match Chan’s findings and the new factor analysis seems to explain the variance with two factors, the hypotheses associated with the motivation to lead concept were tested with the two new factors, MTL-S and MTL-G.

Findings Associated with MTL-S and MTL-G

Cerff’s (2006) study utilized the two new factors, MTL-G and MTL-S in a two-part hypothesis as follows:

H4a: There is a causal relationship in which hope, self-efficacy, Christian and ethnicity predict MTL-S.

In order to determine whether this hypothesis is accepted or rejected, interval data were collected using Winston et al.’s (2005) Hope Instrument, Chen et al.’s (2001) NGSE, and the revised MTL model comprising the six items for MTL-S. A multiple regression analysis was carried out for MTL-S. The predictors were Black, White-Afrikaans, White-English, Colored, hope total score, self-efficacy, and Christian. A stepwise regression analysis was subsequently conducted for MTL-S. The analysis confirmed the three predictors of MTL-S. The results show that hope, self-efficacy, and Christian are predictors of MTL-S. The regression model including these three predictors is significant, \( F(1,198) = 33.46, p < .001; R^2 = .21 \). These results indicate that 45% of the variance in the dependent variable can be explained with the new model.

The most important predictor of MTL-S is hope (\( \beta = -.29; t = -4.15, p < .001 \)). The other two significant predictors are Christian (\( \beta = -.20; t = -3.09, p < .01 \)) and self-efficacy \( \beta = -.15; t = -2.30, p < .05 \). The negative regression coefficients indicate an inverse relationship between independent
variables and the dependent variable; the more hope and self-efficacy, the less MTL-S. Table 1 provides the standardized regression coefficients for MTL-S predictors.

Table 1: Standardized Regression Coefficients for MTL-S Predictors

<table>
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<tr>
<th>Predictor</th>
<th>β</th>
<th>T</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>Hope</td>
<td>-.29</td>
<td>-4.15</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Christian</td>
<td>-.20</td>
<td>-3.09</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>SE</td>
<td>-.15</td>
<td>-2.30</td>
<td>p &lt; .05</td>
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The religious affiliation independent variable was dummy coded with 1 for Christians and 0 for non-Christians. Therefore, the negative regression coefficient indicates that Christians have lower MTL-S scores than non-Christians. The results of the analyses for hypothesis 4a show that the variables of hope, self-efficacy, and Christian are predictors of MTL-S; on the basis of these results, hypothesis 4a is accepted.

H₄ᵇ: There is a causal relationship in which hope, self-efficacy, Christian, and ethnicity predict MTL-G.

In order to determine whether this hypothesis is accepted or rejected, interval data were collected using Winston et al.'s (2005) Hope Instrument, Chen et al.'s (2001) NGSE, and the revised model comprising the seven items for MTL-G to establish whether there is a causal relationship in which hope, self-efficacy, and the dummy variable Christian as well as the dummy variables Black, White-Afrikaans, White-English, and Colored predict MTL-G. A multiple regression analysis was carried out for MTL-G. The predictors were Black, White-Afrikaans, White-English, Colored, hope total score, self-efficacy, and Christian.

A stepwise regression analysis was run for MTL-G, and the results show that self-efficacy is the only significant predictor of MTL-G. The regression model including this predictor is significant [F (1,198) = 29.43, p < .001; R² = .13]. The standardized regression coefficient for self-efficacy is β = .36; t = 5.43, p < .001. The positive regression coefficient indicates a positive relationship between the independent and the dependent variables; indicating that the more self-efficacy, the more MTL-G. Table 2 provides the standardized regression coefficients for MTL-G predictors.

Table 2: Standardized Regression Coefficients for MTL-G

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>T</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>SE</td>
<td>.36</td>
<td>5.43</td>
<td>p &lt; .001</td>
</tr>
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The results of the analyses for hypothesis 4b show that self-efficacy is a predictor of MTL-G. On the basis of these results, hypothesis 4b is accepted.

Implications of the Findings on MTL-S and MTL-G
The results of the analyses associated with the potential predictors of the MTL-S factor indicated that the variables of hope, self-efficacy and Christian are predictors. The most important predictor of the MTL-S factor is hope, thereafter Christian and self-efficacy. Since each of these variables had a negative beta reported, this indicates an inverse relationship between independents and the dependent, therefore the more hope and self-efficacy, the less motivation to lead for self-benefit is present.

The findings of these analyses also indicate the potential ability of the revised 13 item, two-factor Motivation to Lead Instrument to identify certain character traits present in individuals. Since the findings of Cerff’s (2006) research indicate a tendency for Christians to demonstrate higher levels of MTL-G, the 7 items for the MTL-G could be utilized as a scale for altruism.

Conclusion

The revised two-factor model of Chan’s (1999) MTL Instrument, comprising the Leading For Self-Benefit Factor (MTL-S) and the Group-Centered Leading Factor (MTL-G) is a meaningful redevelopment of Chan’s MTL Instrument for the South African context and potentially in other nations as well.

The Group-Centered Leading Factor, comprising seven items, is of particular interest as a scale for measuring altruism. This research makes a contribution to servant leadership by establishing the connection between MTL-G and altruism, and adds a valuable dimension to the research of Patterson (2003).
References


Appendix A

Chan’s MTL Instrument

How well do the following statements describe how you feel? Imagine a typical work or university situation where you are working in a group or team, and the question of appointing leaders is raised. Assume that everyone in the group has roughly the same level of relevant training, knowledge and experience. Read each statement and choose the response on the scale of 1 – 5 below that best describes your agreement or disagreement with the statement. There are no right or wrong answers. Please answer honestly and frankly. Write your answer (using a scale of 1 – 5) next to the number of the question below.

Score 1-5

1. I am definitely not a leader by nature.
2. I have been taught that I should always volunteer to lead others if I can.
3. Whenever I am asked to lead, I will accept the responsibility.
4. I would only agree to be a group leader if I know I can benefit from that role.
5. When I think of leading, I think a lot about the burden and responsibilities involved.
6. Most of the time, I prefer being a leader rather than a follower when working in a group.
7. People should volunteer to lead without having to be asked.
8. A group has no right to choose me as the leader if I am not interested.
9. If I agree to lead a group, I would never expect any advantages or special benefits.
10. I am always ready to assume a leadership role if I am needed.
11. I have a tendency to take charge in most groups or teams in which I work.
12. People dislike those who volunteer to lead without being asked.
13. I feel that I have a duty to lead others if I am asked.
14. I would want to know “what’s in it for me” if I am going to lead a group.
15. I usually agree to lead a group because “someone’s got to do it”.
16. I am the type of person who is not interested in leading others.
17. I was taught to believe in the value of leading others.
18. It’s not right to decline leadership roles.
19. I am only interested in leading a group if there are clear advantages for me.
20. Leadership is often a very lonely experience.

☐ 21. I believe I can contribute more to a group if I am a follower rather than a leader.

22. Leading others is never a waste of my time and effort.

☐ 23. I would never agree to lead just because others voted for me.

☐ 24. I would never hesitate to lead a group if I am needed.

☐ 25. I am the type of person who likes to be in charge of others.

☐ 26. It is an honour and privilege to be asked to lead.

☐ 27. I will lead the group only when I want to lead and never when the group asks me to lead.

☐ 28. I have more of my own problems to worry about than to be concerned about the rest of the group.

☐ 29. Leading others is really more of a dirty job rather than an honourable one.

☐ 30. I usually want to be the leader in the groups in which I work.

☐ 31. Most workgroups can do well without appointing a leader.

☐ 32. I agree to lead whenever I am asked or nominated by the other members.

☐ 33. I will never agree to lead if I cannot see any benefits from accepting that role.

☐ 34. I am the type of person who would actively support a leader but prefers not to be appointed as leader.

☐ 35. People should volunteer to lead rather than wait for others to ask or vote for them.

☐ 36. A person should feel guilty if he/she does not accept a leadership role that is offered.

☐ 37. I never expect to receive more privileges if I agree to lead a group.

☐ 38. I am seldom reluctant to be the leader of a group.

☐ 39. I like the experience of leading others.

☐ 40. It is not good behavior to volunteer to lead without being asked.

☐ 41. It is appropriate for people to accept leadership roles or positions when they are asked.

☐ 42. I would agree to lead others even if there are no special rewards or benefits with that role.

☐ 43. I will agree to lead if there is absolutely no other alternative.

☐ 44. When chosen as group leader, I will usually accept the job.

☐ 45. Leading others is a waste of one’s personal time and effort.
46. I would think very carefully before agreeing to lead a group.

**MTL-S**

The leading for self-benefit factor comprises the following six items from Chan’s (1999) MTL Instrument:

14. I would want to know “what’s in it for me” if I am going to lead a group.
19. I am only interested in leading a group if there are clear advantages for me.
27. I will lead the group only when I want to lead and never when the group asks me to lead.
29. Leading others is really more of a dirty job rather than an honourable one.
33. I will never agree to lead if I cannot see any benefits from accepting that role.
45. Leading others is a waste of one's personal time and effort.

**MTL-G**

The leading for group benefit factor comprises the following 7 items from Chan’s (1999) MTL Instrument:

6. Most of the time, I prefer being a leader rather than a follower when working in a group.
11. I have a tendency to take charge in most groups or teams in which I work.
25. I am the type of person who likes to be in charge of others.
30. I usually want to be the leader in the groups in which I work.
32. I agree to lead whenever I am asked or nominated by the other members.
39. I like the experience of leading others.
44. When chosen as group leader, I will usually accept the job.

**Letter of Permission to Use Instrument**

Prof F. Drasgow was Dr Chan’s dissertation committee chairperson and wrote the following email granting permission to use the instrument when Dr Chan could not be traced.

From: Fritz Drasgow [fdrasgow@cyrus.psych.uiuc.edu]  
Sent: 24 October 2005 04:02 PM  
To: Karen  
Subject: Re: Contacting Dr Chan
Hi Karen, you have our permission to use the MTL for your research.

Fritz Drasgow