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A review, analysis, and extension of peer-leader feedback agreement: Contrasting group aggregate agreement vs. self-other agreement using entity analytics and visualization☆

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ABSTRACT

In reviewing peer-leader feedback within Multi-Source Feedback programs, the group aggregate agreement (GAA) method is contrasted with self-other agreement (SOA). Past research (Markham, Smith, et al., 2014) has demonstrated convergence problems with GAA for groups of peer raters. To evaluate dyadic convergence, we used the Benchmarks data to investigate two derailment factors (Building & Mending Relationships and Interpersonal Problems) for 4607 peers describing 1505 focal respondents. For high-agreement dyads, the $r_{total} = -0.66^{**}$ with 88% of the combined variance and covariance based on dyadic averages converging as whole units. Only 50% of all dyads demonstrated this type of high convergence. For low agreement dyads, the matching correlation ($r_{total} = -0.56^{**}$) was almost exclusively a function of within-dyad divergence with only 4% stemming from between-dyad sources. Research implications for evaluating SOA under these agreement conditions are highlighted. Practitioner applications for using an entity-based visualization of dyads also are prototyped and discussed.

Introduction & background

Peer ratings and multisource feedback program

Multisource Feedback (MSF) programs are essential tools for organizations that are engaged in formal leadership development programs (Atwater & Waldman, 1998). A wealth of anecdotal experiences exists suggesting that the comparison of one's perceptions with others' perceptions can be transformative, under the right conditions. It is not clear, however, if the effort required to gather information from the focal respondents, their bosses, their subordinates, their peers, and others provides equally valuable information. This overarching issue of how to provide feedback has important theoretical and practical implications in light of the large numbers of participants who experience a 360° MSF program each year (Van Velsor, McCauley, & Ruderman, 2010). There is also a perceived need to dramatically improve the efficacy of leadership development programs as argued by Kellerman (2012)

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and Pfeffer (2015). They have criticized the leadership development and feedback industry in the popular press, especially in terms of the large sums of money spent while returning such small benefits. As such, the underlying themes of this article include: (1) reviewing the importance of peer feedback, especially within the 360° context, (2) identifying problems with traditional methods for analyzing and reporting peer feedback, and (3) developing alternative analysis and reporting approaches for peer feedback.

The first purpose of this research is to review our knowledge concerning peer feedback and how it is tied to fundamental data configuration issues, regardless of whether averages of groups of peer raters are examined, averages of dyadic pairings of a focal respondent with a single peer are used, or if simple individual reports are utilized. Researchers have debated the meaning and utility of peer reports in an MSF feedback context for a number of years (Abdulla, 2008; Bettenhausen & Fedor, 1997; Conway, Lombardo, & Sanders, 2001; Cushing, Abbott, Lothian, Hall, & Westwood, 2011; Dalessio & Vasilopulos, 2001; Dominick, Reilly, & McGourty, 1997; Feudo, Vining-Bethea, Shulman, Shedlin, & Burleson, 1998; Facteau, Facteau, Schoel, Russell, & Poteet, 1998; Facteau & Craig, 2001; Furnham & Stringfield, 1998; Mayo, Kakarika, Pastor, & Brutus, 2012). The superior-subordinate self-other agreement (SOA) literature is often used for guidance in this debate (Heidemeier & Moser, 2009).

There is sufficient evidence to suggest that peer feedback is significantly associated with a number of positive outcomes for individuals, teams, and organizations (Antonioni & Park, 2001; Atwater & Brett, 2006; Bettenhausen & Fedor, 1997; Byrd, Martin, Nichols, & Edmondson, 2015). At the same time, peer reports are also substantially different from subordinate feedback so that they cannot be considered duplicate information. In fact, it may be the case that peer feedback works better if the peers are not anonymous, unlike other sources of feedback (Bamberger, Erev, Kimmel, & Oref-Chen, 2005). Finally, however, peer feedback reports suffer from the same problem as do subordinate reports when matched against the focal respondents' reports, which is the kernel of SOA. In both cases, while statistically significant, there are relatively small amounts of variance in the focal reports that are explained by the raters' reports (Zhou & Schriesheim, 2009).

A second purpose of this research is to empirically demonstrate dyads as an alternative level of analysis that can be used instead of whole groups for analyzing peer reports. This will help bridge the gap between the practitioner focus on GAA and the academic focus on SOA. Researchers are confronted with the question of how we know when there is sufficient variation between rater groups coupled with adequate convergence within such groups to justify creating an average for a particular respondent group. The practical issue of *aggregability* (defined as meeting the requirements for statistical and practical justification so as to aggregate hierarchically-nested, granular data to higher level entities without creating statistical artifacts or false inferences), can be summarized quite simply. If feedback reports are being generated based upon averages that are essentially statistical artifacts, then false or misleading feedback is being given to focal respondents. It is also not clear if the feedback from these three grouped sources (subordinates, peers, and others, such as customers) should be aggregated in order to provide feedback. Thus, we pose a fundamental research question: Does convergence operate at the same level of analysis for peer reports as it does for direct subordinate reports?

The examination of leadership processes that focus on dyads instead of whole groups has a long history (Dansereau, 1995). Similarly, the general analysis of dyadic data also has been advocated by Kenny, Kashy, and Cook (2006), as has the recommendation that multi-level methods (MLM) be applied to multisource feedback (Yammarino, 2003). However, dyadic studies using complete multi-level methods are scarce (Gooty & Yammarino, 2011), and, to date, they rarely have been applied to multisource feedback data. An exception to this observation was recently illustrated in a predecessor article (Markham, Markham, & Smith, 2015) in which the dyadic level of analysis was operationalized for pairs of focal respondents and direct subordinates. In that study, the dyadic level of analysis provided more useful, convergent information than the whole group level of analysis. In this study, we will apply the dyadic level of analysis to peer data so as to determine its configurational characteristics compared to whole groups of peers.

The third purpose of this research is to develop alternative approaches to providing peer-based feedback. One potential tool is a visual 3D display, prototyped below, that will simultaneously show the scores of the focal respondent, the direct subordinates, and the peers based on the Within And Between Analysis (WABA) methodology. What does it mean to develop such types of displays for dyadic feedback reports? The foundation to this question can be partially provided by the field of organizational visualization (Markham, 1988, 1998; Markham, Markham, & Braekkan, 2014b) in which a variety of 2D representations have been offered. Specifically, a 3D visualization of 360° data can provide an alternative way of communicating to focal respondents the nature of their feedback, especially when the average scores of rating groups should not be utilized.

The importance and use of peer feedback

Peer reports can be a valuable source of feedback beyond the information provided by subordinates or bosses. Peers represent a unique social resource. They are not part of the direct chain of command, and thus less subject to rules, constraints, and censoring. They constitute a potentially much larger pool of raters when compared to the smaller number of direct subordinates. Peers are usually considered “friendlies” when they are nominated by the focal respondent, in contrast to direct subordinates who often might be hostile to the focal respondent. Finally, peers can provide a comparison group for the focal leader when seeking role model information, political alliances, and tacit information about the social system, etc.

Evidence for the value of peer feedback in 360° leadership development programs is relatively clear; it is of value. However, it is difficult to ascertain exactly how much value and in what manner. This is because it is difficult to interpret most of the research. Peer feedback is clearly correlated with a variety of leadership effectiveness measures. However, it is also substantially different from other sources of feedback, be they subordinates or bosses. As such, it has often been a subsidiary concern because of the