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Towards a Cohesive Theory of Cohesion

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ABSTRACT

Conventional wisdom suggests that group cohesion is strongly related to performance. This may be based on the notion that better cohesion leads to the sharing of group goals. However, empirical and meta-analytic studies have been unable to consistently demonstrate a relationship between cohesion and performance. Partially, this problem could be attributed to the disagreement on the precise definition of cohesion and its components. Further, when the cohesion construct is evaluated under Cohen's Cumulative Research Program (CRP), it is surprisingly found to belong to the category of early-to-intermediate stage of theory development. Therefore, a thorough re-examination of the cohesion construct is essential to advance our understanding of the cohesion-productivity relationship. We propose a qualitative approach because it will help establish the definitions, enable us to better test our theories about cohesion and its moderators, and provide insights into how best to enlist cohesion to improve team performance.

Introduction

Cohesion has been defined as "group members inclination to forge social bonds, resulting in members sticking together and remaining united" (Carron, 1982, p. 124). It has also been referred to as group cohesion or cohesiveness. It is one of the oldest and most widely studied variables in the group dynamics literature (Casey-Campbell & Martens, 2009; Mullen & Copper, 1994), and is fundamental to the fabric of group and social functioning. Despite cohesion being a widely studied construct, the construct appears to be poorly developed and consequently, the reported theories, and empirical findings of cohesion research are in disarray.

Cohesion has been considered a critical group variable (Carron & Brawley, 2000; Eys, Loughhead, Bray, & Carron, 2009; Lott & Lott, 1965) because of the reported relationship between cohesion and positive group outcomes, such as job satisfaction, psychological well-being, and work-group performance (Beal, Cohen, Burke, & McLendon, 2003; Carless, 2000; Mullen & Copper, 1994). Attitudes and behaviors exhibited by cohesive teams include morale, group spirit, trust, friendship, cooperation, communication, organizational citizenship behavior, organizational commitment, and sense of identification with the group (Andrews, Kacmar, Blakely, & Bucklew, 2008; Carless & De Paola, 2000; Chen & Tang, 2009; Friedkin, 2004; Kidwell, Mossholder, & Bennett, 1997).

This review examines the various definitions and theories of cohesion and then evaluates the development of the constructs against stages of a Cumulative Research Program (CRP). Despite the perceived importance of cohesion and the time and the number of studies dedicated investigating the concept, the theory of cohesion continues to remain in the early stages of development. Indeed, this may explain the lack of consistent research findings. Thus, we propose that the construct requires theoretical and empirical re-examination to aid its explanatory power.

The Definition of Cohesion

A construct's definition may facilitate precise communication and shared understanding of sociological phenomena (Cohen, 1989). The literature contains diverse definitions and descriptions of cohesion, and it is

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clear that different researchers interpret it differently. Two historical and oft-cited definitions include the one by Festinger (1950), who defines cohesion as the “resultant of all the forces acting on members to remain in the group” (p. 274) and the one by Gross and Martin (1952), who refer to it as “the resistance of the group to disruptive forces” (p. 553). These two definitions highlight why such inconsistency exists as the two definitions are so different to each other.

Contemporary researchers have offered other brief and perhaps uninformative definitions. For instance, cohesion has been defined in the recent literature as the ‘stick-togetherness’ of the group (Guzzo & Dickson, 1996; Salisbury, Parent, & Chin, 2008); “the desire of group members to stay together as a group” (Banki, 2010, p. 364); “how individual members of a team relate and work together as a unit” (Aoyagi, Cox, & McGuire, 2008, p. 30). Of course, although this is not an exhaustive list, these definitions typify the disparate viewpoints concerning cohesion.

Ideally a nominal definition names and classifies a construct without adding any further meaning from empirical findings or otherwise (B. P. Cohen, 1989; Reber & Reber, 2001), while also conveying the author’s viewpoint about the construct and its components. However, in the case of cohesion and other small-group phenomena (e.g., group identification), this is not always the case. This is demonstrated by Table 1, which reviews a selection of the most recent (2008– 2011) empirical studies on cohesion across a range of disciplines (e.g. sport, medical, organizational health and social sciences). Overall, there appears to be little shared meaning among the definitions of cohesion, and it seems that defining cohesion explicitly poses considerable difficulty (see Table 1). Further, it is unclear whether various researchers are referring to the same thing. As social psychology researchers and theorists, we need to be confident that we are referring to the same phenomenon.

Table 1: Comparison of the Rationale/Bases for Studies on Cohesion in a sample of studies

Definition	Author	Components of cohesion	Measurement
A dynamic process which is reflected in the tendency for a group to stick together and to remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs (Carron et al., 1985).	De Backer et al., (2011)	Task cohesion and Social cohesion.	Three items from the task cohesion scale and three items from the social cohesion from the GEQ (Carron et al., 1985).
	Loughead, Patterson, & Carron (2008)	Group integration, Attraction to the group, Task cohesion, and Social cohesion.	The Physical Activity Group Questionnaire (Estabrooks & Carron, 2000).
	Marcos, Miguel, Oliva, & Calvo (2010)	Task cohesion and Social cohesion.	An adapted version of the Multidimensional Sport Cohesion Instrument (Yukelson et al., 1984).
Forces acting on the members of the group to remain in the group (Festinger, 1950).	Crino and Djokvucic (2010)	The degree to which (1) activities of the group stimulate the participant; (2) the patient is committed to the group; (3) the group is perceived as suitable.	Cohesion Questionnaire (Ogrodniczuk, Piper, & Joyce, 2006; Piper et al., 1983).
How individual members of team relate to each other and work together as a unit.	Aoyagi, Cox, & McGuire, (2008)	Group integration, Attraction to the group, Task cohesion, and Social cohesion.	GEQ (Carron et al., 1985).
Shared commitment to the group task and a shared attraction and mutual liking for one another.	Hausknecht, Trevor, & Howard (2009)	Task cohesion and Attraction to the group.	GEQ (Carron et al., 1985).
The bond with the group as a whole.	May et al. (2008)	Task cohesion and Social cohesion.	GEQ (Carron et al., 1985).

Definition	Author	Components of cohesion	Measurement
The degree to which the group members share the group goals and unite to meet these goals.	Shiue, Chiu, & Chang (2010).	Task and emotional components.	Three items adapted from Warkentin, Sayeed, & Hightower (1997).
The stick-togetherness of a group.	Salisbury, Parent, & Chin (2008)	Sense of belonging and Morale.	Six-item scale; items derived from scales of cohesion (Bollen & Hoyle, 1990; Chin et al., 1999).

The assumption that definition of cohesion reflects the corresponding author's theory of cohesion is reasonable. Most notably, some of these definitions are aligned to a unidimensional conceptualization of cohesion rather than the multidimensional one, again reflecting a lack of consistent understanding of cohesion. Hence, a thorough re-examination of the evolution of the cohesion construct may assist to advance our understanding of cohesion.

Theory of Cohesion

The multidimensional nature of cohesion has been considered by some of the earliest theorists and researchers (Back, 1951; Festinger, 1950; Festinger, Schachter, & Back, 1950; N. Gross & Martin, 1952). Festinger (1950) proposed that cohesion is composed of three factors: (1) attraction to the group (analogous to interpersonal attraction or social cohesion), which is essentially a liking for the group or the group members, (2) commitment to the task (analogous to task commitment or task cohesion), which is the extent to which individual member goals are shared with or enabled by the group, and (3) group pride, which is the extent to which group members experience positive affect from being associated with what the group represents or the status of the group (Beal et al., 2003; Carless & De Paola, 2000; Festinger, 1950). Others have supported Festinger's original conceptualization, describing his three factors as either individual components of cohesion or as a complete description of their model (e.g. Beal et al., 2003; Carless & De Paola, 2000; Mullen & Copper, 1994).

Although theories of cohesion generally support the existence of specific components, the degree of support varies. These components include, but are certainly not limited to, attraction to the group (analogous to interpersonal attraction) (e.g. Back, 1951; Beal et al., 2003; Carless & De Paola, 2000; Carron, Widmeyer, & Brawley, 1985; Dobbins & Zaccaro, 1986; Festinger, 1950; Festinger et al., 1950; Widmeyer, Bray, & Carron, 1985); group pride (e.g. Beal et al., 2003; Festinger, 1950; Festinger et al., 1950); task commitment (e.g. Beal et al., 2003; Carless & De Paola, 2000; Festinger, 1950; Festinger et al., 1950; Mullen & Copper, 1994); sense of belonging (e.g. Andrews et al., 2008; Bollen & Hoyle, 1990; Frank, 1957; E. Gross, 1954; Zenaida, Fernando, & Pierre, 2003); morale (e.g. Bollen & Hoyle, 1990; Chin, Salisbury, Pearson, & Stollak, 1999); and bonding (e.g. Salo & Siebold, 2008).

Despite these early suggestions that cohesion comprises multiple factors (e.g. Festinger, 1950; Festinger et al., 1950; N. Gross & Martin, 1952), some researchers continued to regard cohesion as a unidimensional (one factor) construct (e.g. Goodman, Ravlin, & Schminke, 1987; Piper, Marrache, Lacroix, Richardsen, & Jones, 1983; Seashore, 1954). For instance, Goodman, Ravlin, and Schminke (1987) considered cohesion as commitment to the group task. Piper, Marrache, Lacroix, Richardsen, and Jones, (1983) defined cohesion as a "basic bond or uniting force," (p. 95) and considered commitment to the group to represent this conception. The tendency among researchers to conceptualize cohesion as simply attraction to the group might be because such a definition lends itself easily to operationalization and measurement (Bollen & Hoyle, 1990; Drescher, Burlingame, & Fuhrman, 1985; Evans & Jarvis, 1980). However, a key criticism of the unidimensional approach is that conceptualizing cohesion (a group level phenomenon) as attraction to the group (an individual manifestation) loses the "groupness" of cohesion, thereby failing to reflect the true nature of the construct (Mudrack, 1989; Yukelson, Weinberg, & Jackson, 1984). Researchers have noted these shortcomings and called for the multidimensional nature of the construct to be reflected in its nominal, conceptual, and operational definitions (Carron, 1982; Drescher et al., 1985; Mudrack, 1989; Mullen, Driskell, & Salas, 1998; Tziner, 1982).

Despite the mainstream view arguing for its multidimensionality (e.g. Carron & Brawley, 2000; Evans & Jarvis, 1980; Festinger, 1950; N. Gross & Martin, 1952), a number of measures treat cohesion as unidimensional (e.g. Barrett, Piatek, Korber, & Padula, 2009; Budman, Soldz, Demby, Davis, & Merry, 1993; Goodman et al., 1987; Olson, Russell, & Sprenkle, 1983; Piper et al., 1983; Price & Mueller, 1986; Seashore, 1954). For instance, the Group Cohesion Scale developed by Price and Mueller (1986) is a unidimensional six item scale that continues to be used by contemporary researchers to measure group cohesion (Barrett et al., 2009; Klassen & Krawchuk, 2009).

Approaches to measuring cohesion include assessing individual members' expressed desire to remain in the group (e.g. Festinger et al., 1950; Schachter, 1951), duration of a member hug once the group has ended (Kirshner, Dies, & Brown, 1978), and a variety of self-reported measures of social cohesion (e.g. Carron et al., 1985; Seashore, 1954; Widmeyer et al., 1985) and task cohesion (e.g. Carless & De Paola, 2000; Carron et al., 1985; Widmeyer et al., 1985). Indeed, as reported by Horney et al., "there are at least ten cohesion scales currently circulating the literature...that researchers have developed on the basis of intuition or face validity" (Hornsey, Dwyer, Oei, & Dingle, 2009, p. 272). The reliability and validity of these tests have not been consistently reported in the literature (for review see Drescher et al., 1985; Evans & Jarvis, 1980; Hornsey et al., 2009).

The model that is arguably the most widely applied conceptualization of cohesion in current research is the four-factor model proposed by Carron, Widmeyer, and Brawley (Carron et al., 1985; Widmeyer et al., 1985). This model is conceptually based on the group dynamics literature and is developed through the study of cohesion exhibited in sports teams. In this model, cohesion comprises both individual and group factors and these factors of cohesion manifest as task and social components.

The group-individual distinction recognizes that cohesion results from both a member's desire to remain part of the group as a unit (group integration, GI) and from a member's personal attraction toward being a group member (interpersonal attraction to the group, ATG) (Carron et al., 1985; Widmeyer et al., 1985). Hogg's influential contribution to Social Categorization Theory includes a comprehensive discussion of the distinction between attraction to the group and attraction to group members (insert Hogg references here). According to Hogg's social attraction theory, when a group is salient, group members are liked more if they are similar to the group prototype (the defining and stereotypical group attributes). When all group members are considered alike to the group prototype, social attraction is high. When the group is not salient, liking for members is based on personal relationships and individual preferences. GI represents the member's perceptions of the group and attraction to the group, reflecting feelings of closeness, similarity, and bonding. ATG represents attraction to group members and the personal motives of the individual to remain part of the group (Carron & Brawley, 2000; Carron et al., 1985; Widmeyer et al., 1985). The task-social distinction reflects the perceived task and social aspects of the group. For instance, when a group is formed for the purpose of achieving a goal, task cohesion is likely to be high; however, once the goal has been achieved, social cohesion is likely to be high. This model thereby conceptualizes cohesion as comprising four factors: GI-task (GI-T), GI-social (GI-S), ATG-task (ATG-T), and ATG-social (ATG-S). These four factors of cohesion are measured by the Group Environment Questionnaire (GEQ) (Carron et al., 1985; Widmeyer et al., 1985), which is perhaps the most readily applied measure of cohesion in contemporary research.

Despite the popularity of the GEQ in studying cohesion, certain reservations about its psychometric properties have been discussed in the literature. For instance, empirical tests of the model within and outside of the sporting context have yielded mixed results (Carless & De Paola, 2000). Further, the four factors of cohesion could not be validated in sports teams (Schutz, Eom, Smoll, & Smith, 1994), and the GI-ATG distinction was not supported in a large group of musicians (Dyce & Cornell, 1996). Carless and De Paola (2000) conducted a study to validate a revised version of the GEQ for organizational settings. In this study, four conceptual models of cohesion were tested and found to be a poor fit of the data. The models included ATG (one-factor model), GI and ATG (two-factor model), task cohesion and social cohesion (two-factor model), and Carron et al.'s model. However, an alternative three-factor solution, comprising task cohesion ($\alpha = 0.74$), social cohesion ($\alpha = 0.81$), and attraction to the group ($\alpha = 0.63$), emerged as a better model. These factors were operationalized as ten items on the work-adapted GEQ.

However, the findings of Carless and De Paola (2000) should be interpreted with caution because researchers have identified methodological limitations in their study (e.g. Carron & Brawley, 2000). In particular, the sampling technique employed gave rise to a number of debates. The sample only included

employees from a single organization, and they varied significantly in tenure. The restricted sample may not be representative of the wider population and therefore the findings and conclusion drawn from this study may be exclusive to that particular organization. Furthermore, the outcome variable, i.e., performance, was measured in the form of manager ratings of the employees. Given that the regional managers in the organization oversaw a number of stores and employees, it is conceivable that the managers may not have had the necessary interaction with employees to provide accurate ratings of their performance, thereby introducing error.

In addition to potential limitations with the sampling and measurement techniques employed, the fit of Carless and De Paola's (2000) model and the internal consistency of their work-adapted scale is also debatable (see Hu & Bentler (1999) criteria for an adequate model).

As seen in Table 1, this model is the most widely applied conceptualization of cohesion today. However, despite its limitations, the Carless and De Paola study raises questions about the validity of the Carron et al. model (Carron et al., 1985; Widmeyer et al., 1985).

In an attempt to understand an underlying factor structure of cohesion von Treuer, Fuller-Tysiewicz and Atkinson (2010) collapsed the items of six scales reporting to measure cohesion. Exploratory factor analysis revealed four first-order factors of team commitment, friendliness, interpersonal conflict and communication that collectively accounted for 55.17% of the variance shared among the 75 cohesion items. Subsequently, a single higher-order factor was extracted which accounted for over half of the co-variation among the first order factors. This higher-order factor seems to reflect a general cohesion factor. This finding further confirms the confusion regarding the factors of cohesion.

Thus, based on the literature, four distinct conclusions may be drawn. Firstly, various components of cohesion have been advocated by past researchers, however, empirical and theoretic support for the components vary. Secondly, research findings fail to identify components that are important in the context of the cohesion-performance relationship, thereby contributing to the conceptual confusion. Thirdly, with the exception of a few researchers (e.g., Carron et al., 1985), there is a clear lack of collaborative effort among cohesion researchers. This is demonstrated by the varied viewpoints of cohesion communicated by researchers (Table 1). Lastly, some components of cohesion, which have been supported by previous research (e.g. belongingness) are not captured in the current models (or conceptualizations) of cohesion.

Recent studies demonstrate a clear preference for conceptualizing and operationalizing cohesion as task and social cohesion. Given the lack of consistent findings on the conceptualization of cohesion, any research approach that focuses on a subset of components to the exclusion of others may be misguided.

The available measures of cohesion neither reflect the complex nature of the construct nor possess adequate psychometric properties. A key consequence of inconsistent measurement is the limited ability to generalize across studies. Furthermore, without agreement on the definition, conceptualization, and measurement of cohesion, researchers will be unable to conduct systematic research or engage in collaborative work and build a program of robust research. In other words, without this agreement, progress in developing a coherent theory of cohesion will be hindered. Although the work of Carron et al. may have brought some consistency to the definition, conceptualization, and measurement of cohesion, the inability of researchers to support their model challenges its use. However, Carron, Widmeyer, and Brawley offer a good example of how researchers, recognizing the importance of definitional and conceptual clarity, are able to conduct systematic study of group phenomena. Once the researchers agree on the actual definitions of cohesion, they can begin to study the construct consistently, and collaboratively build a systematic program of research.

Cumulative Research Programs

Cohen (1989) introduced the Cumulative Research Program (CRP) to develop sociological knowledge and to offer a means to evaluate the progress of any given theory in the social sciences. CRPs are a series of interrelated studies, with each study being related to a stage of development based on its capacity to identify and solve sociological problems. CRPs represent the collaborative work of researchers that together builds on and extends current knowledge and understanding on sociological phenomena (B. P. Cohen,

1989). The value of a CRP lies in its explanatory power of the ideas, concepts, and theories that emerge while researchers build on previous studies. A given theory is said to have more explanatory power than an alternate theory if it includes all that is explained in the alternate theory but offers additional explanation of a given phenomenon. Any given theory can be seen as being either in an early, intermediate, or advanced stage of development (B. P. Cohen, 1989). CRP development usually occurs through a range of exploratory, conceptual, or empirical activities.

In the early stage of a CRP, concepts are usually not clearly defined, ideas are vaguely formulated, and the theory holds little explanatory power. However, one of the aims of the early stage of a CRP is to demonstrate explanatory power, and this can be accomplished through lateral accumulation, which is the accrual of information or data that support the theory. Although lateral accumulation can offer a greater understanding of the theory, it does not usually solve theoretical problems or result in the development of new theoretical definitions. Therefore, for the CRP to progress to the next stage, a more strategic approach is needed.

For a theory to advance to the intermediate stages of the CRP, the (degree of) explanatory power offered by the theory must be demonstrated. This is because each progression to the next stage of the CRP must ensure greater capability to solve problems. Accordingly, intermediate stage of theory development is focused on refining concepts using explicit definitions and applying reliability and validity studies, developing more explicit definitions, developing more comprehensive explanation of theory concepts, and testing the theory's principles in other research settings (B. P. Cohen, 1989).

The advanced stage of the CRP is the final stage of theory development. The progress from the intermediate stage to the advanced stage occurs when the theory (or theories) is defined explicitly, generates knowledge, solves problems, and is supported by substantial empirical evidence. The development of the CRP will continue for as long as the theory continues to generate knowledge and affords understanding.

The theory of cohesion within groups, like other social theories, can be analyzed based on the stages of Cohen's CRP. In the rest of this paper, we apply CRP to the theory of cohesion in light of recent research findings.

Evaluation of the CRP for Cohesion in Light of Cohen's Theory

Cohesion as a construct is conducive to analysis using Cohen's (1989) CRP. On the basis of Cohen's model, we can conclude that the cohesion theory is in the early-to-intermediate stages of development. The early stages of theory development are often confined to exploratory research due to an understandable lack of a strong theoretical framework. In contrast, a theory in the advanced stage may be studied using descriptive or exploratory techniques that allow for the examination of how a construct operates and the basis of its operation. Applying descriptive or explanatory research methods to a theory in the early-to-intermediate stage of development is expected to generate equivocal results (B. P. Cohen, 1989). Sophisticated techniques, such as multiple regression and meta-analyses, have been applied in cohesion research and have evidently yielded inconsistent findings (e.g. Beal et al., 2003; Carless & De Paola, 2000; Mullen & Copper, 1994).

The cohesion literature is characterized by an idiosyncratic approach. While there may be normal progress, the definitional, conceptual, and operational difficulties may have impeded the evolution of cohesion as a construct. There is minimal evidence of the application of systematic ideas, concepts, and knowledge claims, and the obtained findings are inconsistent and rarely replicable. Therefore, the task of integrating the work of independent researchers into a program of research is difficult. A CRP rarely remains in the exploratory stage; it requires cumulative strategies for progression to more advanced stages of development. Considerable gains in conceptual clarity, in addition to systematic use of definition and measurement, are needed to progress to more advanced stages. Hence, research should be directed toward achieving shared conceptual understanding.

The Need for Qualitative Research

There is a compelling motive to re-examine cohesion using qualitative analysis strategies. Qualitative studies can help to determine the qualities of a construct. Carron, Widmeyer, and Brawley used a qualitative approach to study cohesion in sports teams and generate items for the GEQ (Carron et al., 1985; Widmeyer et al., 1985). However, the authors derived the components of cohesion from theory *a priori*. An exploratory approach may have been more useful for deriving the components of cohesion, particularly in light of the contradictory literature. Among many qualitative techniques, an approach that has proven useful to investigate the knowledge and conceptions of individuals about organizational constructs is the repertory grid technique (RGT) (Bell, 2006; Fransella, Bell, & Bannister, 2004).

The RGT, also referred to as repertory grid analysis, is based on Kelly's (1955/1991) personal construct theory. This theory argues that as we try to make sense of our world, we create a theoretical framework that becomes our personal construct system (Fransella et al., 2004). We rely on this framework to make decisions, understand our environment, and anticipate events. According to Kelly, we are all 'scientists' who create expectations (hypotheses) from our personal construing (theories) of our experiences and our environment. We test these expectations and modify our theoretical framework based on what we observe, and the cycle continues. Fransella, Bell, and Bannister (2004) describe the RGT as a method designed to explore personal construct systems that allow the researchers to view the world from another person's eyes. It is a technique used to explore personal constructs using the terms and categories of the person who has construed them. Therefore, the RGT aims to identify the personally meaningful distinctions with which the world is constructed. Constructs and elements are central to the RGT. Personal constructs are "bipolar dimensions which each person has created and formed into a system through which they interpret their experiences of the world" (Fransella et al., 2004, p. 16). For instance, in the process of construing a group as attractive, a person also construes what is unattractive in a group. Elements are the entities that identify the area of construing; they are the aspects that are abstracted from the constructs (Kelly, 1955/1991).

The RGT has been used to understand constructs in organizational settings, including management, business practice, and management development (see Fransella et al., 2004; Stewart & Stewart, 1981). It may be used to understand a group member's personal construct of cohesion. While the RGT will not provide the total picture in terms of defining the components of cohesion, it has the potential to provide an appropriate starting point.

Summary and Conclusions

Despite extensive research spanning several decades, there is a lack of consistency in the literature regarding almost every aspect of cohesion research. This includes its definition, conceptualization, and measurement. Implementations of complex conceptual models and complicated statistical tests (e.g., meta-analyses) may be considered premature given the lack of clarity regarding the most fundamental features of cohesion. The construct of cohesion was evaluated in this paper as being in the early stages of a CRP. Research could justifiably be directed toward reconciling the literature and formulating an accepted definition, a conceptual model, and reliable measures of cohesion. A qualitative inquiry of cohesion may be useful to define the components of the construct. RGT presents a flexible approach for the study of social phenomena and has been successful in extracting the meaning of a construct. These are favorable characteristics for the investigation of cohesion and its components. An explicit conceptual model will introduce consistency to the confused literature. It may also be a step toward researching the construct systematically and building a program of research to further develop the theory of cohesion.

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