
Charles Darwin University

What features epitomize cohesion development of a preliminary measure

Von Treuer, Kathryn; Fuller-Tyszkiewicz, Matthew; Moss, Simon; McLeod, Janet; Hamilton, Sigrid

Published in:
Journal of Business Administration Research

DOI:
[10.5430/jbar.v2n1p66](https://doi.org/10.5430/jbar.v2n1p66)

Published: 01/01/2013

Document Version
Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for published version (APA):
Von Treuer, K., Fuller-Tyszkiewicz, M., Moss, S., McLeod, J., & Hamilton, S. (2013). What features epitomize cohesion: development of a preliminary measure. *Journal of Business Administration Research*, 2(1), 66-76. <https://doi.org/10.5430/jbar.v2n1p66>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

What Features Epitomize Cohesion: Development of a Preliminary Measure

Kathryn von Treuer¹, Matthew Fuller-Tyszkiewicz¹, Simon Moss¹, Janet McLeod¹ & Sigrid Hamilton¹

¹ School of Psychology, Deakin University, 221 Burwood Hwy, Burwood VIC, 3125, Australia

Correspondence: Kathryn von Treuer, School of Psychology, Deakin University, 221 Burwood Hwy, Burwood VIC, 3125, Australia. Tel: 61-3-924-46554. E-mail: kathryn.vontreuer@deakin.edu.au

Received: March 24, 2013

Accepted: April 16, 2013

Online Published: April 22, 2013

doi:10.5430/jbar.v2n1p66

URL: <http://dx.doi.org/10.5430/jbar.v2n1p66>

Abstract

Presently, no consensus has been reached with regards to measuring workplace cohesion. Cohesion measures often allude to abstract concepts rather than tangible features, therefore this study identified the tangible features and specific practices that epitomize cohesive workgroups. Specifically, 28 individuals were interviewed and asked to reflect upon two workgroups in which they had been employed before, only one of which was cohesive. Participants identified tangible features, practices, or characteristics that typified each of these workgroups. Content analysis uncovered 14 features of cohesion, such as shared emotional events in the past, friendly and welcoming greetings, and a feeling of pride when other people in the team excel on some task. A provisional measure of cohesion was then distilled from these items.

Keywords: Cohesion, Cooperation, Scale Construction, Trust

1. Introduction

The determinants and consequences of cohesion in teams and workgroups has been studied extensively in many fields, including business, human resources, and psychology (Mullen & Copper, 1994). Cohesion has been considered one of the most, if not the most, important group variable (Carron & Brawley, 2000; Eys, Loughhead, Bray, & Carron, 2009). This appraisal is presumably based on its reported relationship with positive group outcomes, which include job satisfaction, well-being and work-group performance (Beal, Cohen, Burke, & McLendon, 2003; Carless, 2000; Mullen & Copper, 1994). Furthermore, several member attitudes and behaviours have been reported to be indicative of cohesive teams including morale, group spirit, trust, friendship, cooperation, communication, organisational citizenship behaviour, organisational 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).

In the ten years between 1991 and 2001, according to PsychINFO, in 474 peer reviewed papers, either team cohesion or group cohesion were designated as keywords. In the following ten years, between 2001 and 2011, this number increased appreciably to 875.

Despite the apparent interest in team or group cohesion, the measurement of this attribute remains contentious. Researchers have not settled on one established and validated measure of cohesion in organizations. Dion (2000), for example, voiced this concern, stating that “We have no standard, off-the-shelf measure of cohesion in which we can have strong confidence” (p. 21). Similarly, Cota, Evans, Longman, Dion, and Kilik (1995) emphasized that although many indices and scales of cohesion have been developed, these measures are generally not embraced or accepted by other researchers. Therefore, a return to a more exploratory method may be the most fruitful approach to understand the underlying factors of cohesion, ultimately to construct a more satisfactory measure (von Treuer, Fuller-Tyszkiewicz & Atkinson, 2010).

1.1 Definition of Cohesion

This apparent limitation in previous measures of group cohesion can be ascribed to several impediments. First, the definition of cohesion has sparked considerable controversy. One of the pioneering definitions of cohesion was proposed by Festinger, Schachter, and Back (1950). These scholars defined cohesion as “the total field of forces which act on members to remain in the group” (p. 164). Nevertheless, this definition does not facilitate the construction of a measure. Ultimately, this definition equates cohesion to all the determinants of retention. This definition of cohesion, as Mudrack (1989) underscored, either cannot be operationalized or is merely equivalent to group retention.

Guzzo and Dickson (1996) highlighted that cohesion transcends retention and entails a subjective sense of adherence of individuals to one another, which they described as the “stick-togetherness” of a group. This sense of adherence has underpinned many of other definitions of cohesion (e.g., Carron, Brawley & Widmeyer, 1998).

Over the next few years, researchers extended this definition to include an element of evolution or development, revealing that cohesion may be dynamic rather than static. That is, according to this perspective, cohesion also attracts people to the group, like a magnet. To illustrate, Carron et al. (1998) conceptualized cohesion as a “dynamic process”, and Schermerhorn, Hunt, and Osborn (2002) partly defined cohesion as the “degree to which members are attracted to a group”.

Yet, these developments in the definition of cohesion did not eradicate discrepancies across researchers. One source of variance was whether cohesion was primarily an interpersonal dynamic or extended to work tasks as well. To illustrate, Karn, Syed-Abdullah, Cowling, and Holcombe (2007) primarily emphasized the interpersonal or social facets of cohesion. They defined cohesion as the extent to which the individuals have formed “close friendships with others in their immediate work unit and their personal attraction to members of the group”. In contrast, the definition that was proposed by Carron, Widmeyer, and Brawley (1985), refined by Carron et al (1998), and invoked by many other researchers (e.g., Ahronson, & Cameron, 2007; Hambley, O’Neill, & Kline, 2007; Heuze, Bosselut, & Thomas, 2007; Senecal, Loughhead, & Bloom, 2008; Spink, Wilson, & Odnokon, 2009; Tekleab, Quigley, & Tesluk, 2009), assumes that cohesive groups are united to increase the “satisfaction of member affective needs”, pursue “instrumental objectives”, or both (for a similar perspective, see Cota, Evans, Longman, Dion, & Kilik, 1995). That is, these researchers assume that both social cohesion and task cohesion should be measured.

These definitions tend to conflate attitudes and behaviors. Researchers tend to assume that attitudes towards the workgroup, such as the desire to remain loyal, are equivalent to behaviors, such as tangible contributions. Yet, many studies have demonstrated the divergence between attitudes and behaviors in many settings (e.g., Cooke & Sheeran, 2004). Because of this possibility, Andrews, Kacmar, Blakely, and Bucklew (2008) emphasized that cohesion should reflect both attitudes, such as loyalty, identification, trust, and friendship, as well as behaviors, including attempts to strengthen relationships and contribute to tasks.

1.2 Levels of Analysis

In addition to variations in definitions, another source of controversy revolves around whether cohesion should be examined at the individual or group level. Even this distinction is multifaceted. Sometimes this distinction refers to whether or not the forces of adherence operate on individuals or represent an emergent property of groups (cf., Carron et al., 1985). To illustrate, if people feel drawn towards a team, the forces of cohesion seem to operate on the individuals. If the people in a team pursue a shared goal, cohesion reflects an emergent property—a property that cannot be reduced to the sum of individual behaviors.

Alternatively, the distinction between the individual and group level sometimes refers to the methodology that is used to collect data. The perceptions of each individual, for example, could be subjected to a data analysis (cf., Wu, Neubert, & Yi, 2007). Alternatively, a range of techniques can be applied to assimilate the perceptions of individuals into a single index of cohesion for each group.

1.3 Specificity of Items

Despite variations across researchers, many scholars now embrace the definitions and dimensions of cohesion that were developed by Carron et al. (1985). That is, scholars often distinguish between social and task cohesion, both of which are experienced by individuals and also by groups as a whole. Nevertheless, even if this conceptualization was embraced universally, other problems with existing measures need to be resolved.

First, in many previous measures, the items generally refer to broad, intangible concepts rather than specific, visible features. To illustrate, one of the items that was administered by Hausknecht, Trevor, and Howard (2009) was “In

my department, my coworkers and I work very well together to deliver excellent customer service”. The crux of this item—work very well together—could reflect the extent to which the members of this team are friendly, respectful, communicative, trusting, sociable, altruistic, or effective. Similarly, the Group Environment Questionnaire, validated by Carron et al. (1985), comprises 18 items, including “I do not like the style of play on this team”. Again, this item could represent a variety of attributes, such as limited efficacy, pride, or communication.

Because some of the items are broad in scope, several complications are likely to unfold. First, broad concepts tend to evoke a mindset called an abstract construal, in which individuals orient their attention to underlying regularities rather than tangible details (e.g., Trope, Liberman, & Wakslak, 2007). This abstract construal tends to coincide with a motivation to pursue more enduring aspirations instead of specific duties (e.g., Forster & Higgins, 2005)—a motivation that has been shown to amplify the inclination of individuals to inflate their capabilities (Leonardelli, Lakin, & Arkin, 2007). This inclination could bias responses on measures of cohesion; individuals might, for example, exaggerate the degree to which they feel respected.

Indeed, allusions to intangible concepts, instead of precise details, increase the susceptibility of individuals to other biases as well (cf., Mishra, Shiv, and Nayakankuppam, 2008). That is, when the items are not precise, responses are more dependent upon inferences and heuristics, such as “If the team has fulfilled its targets, cohesion must be elevated”. This heuristic may, therefore, inflate the correlation between cohesion and performance.

1.4 Aim and Purpose of this Study

The aim of this study was to commence the research pathway to lead to a suitable measure of cohesion. Researchers need to clarify the tangible features and visible behaviors that exemplify cohesion. To fulfill this goal, participants in the present study, were asked to describe the features and characteristics of one of the previous workgroups that was cohesive and one of their previous workgroups that was not cohesive. Cohesion was not defined expressly because, as Mudrack, (1989) emphasized, most people intuitively understand this term but may be skewed by an explicit definition. Content analysis was then applied to unearth these features. Finally, these features were then translated into a provisional scale. This development of this provisional scale is a preliminary step to inform the establishment of a larger process where content, construct and predictive validity steps will follow.

2. Method

2.1 Participants

The respondents were 28 Australian employees, comprising 16 males and 12 females. The median age of these individuals was between 30 to 35 years. Participants were employed in many sectors including finance (21%), education (18%), health (14%) and welfare (11%). The sample comprised 13 team members, seven team leaders, and six senior managers. The number of years of full-time professional work varied across the sample with five participants working fewer than five years, six participants working six to ten years, ten participants working 11 to 20 years, two participants working 21 to 30, and three participants working more than 30 years.

2.2 Procedure

Each participant was interviewed by one researcher. During this interview, participants were first asked to reflect upon a cohesive team in which they had worked. Second, they were asked to describe some of the characteristics or features of this team that facilitated this cohesion. Third, the participants were asked to reflect upon a previous team that was not cohesive. Fourth, the participants were encouraged to describe some of the characteristics or features of this team that precluded this cohesion. Finally, these individuals were asked to describe both a positive and negative workplace incident in more detail as well as the implications of these events on feelings of cohesion.

3. Results

All the responses of participants to the interview questions were subjected to content analysis. In particular, one researcher coded each independent clause that seemed to represent a feature of cohesion. For example, the response “Trust is really big. I think if people trust each other they are more likely to be honest” was coded as *trust*. A second researcher then applied these codes to the data to assess inter-rated reliability; overall agreement exceeded 90%. Any discrepancies between the researchers were discussed until agreement was reached.

Table 1 presents the percentage of participants who alluded to each coded feature of cohesion during the interviews. Fourteen features of cohesion were distilled.

Table 1. Percentage of Participants who Mentioned Coded Feature of Cohesion

Coded Feature of Cohesion	% of participants who alluded to this facet
Camaraderie	89
Altruism towards members	79
Supportive leaders	79
Commitment to the objectives	71
Respect of group members	61
Open communication between group members	61
Share common purpose	54
Identification with group members	54
Bonding	46
Trust	43
Group efficacy and success	43
Workplace friendliness	39
Sense of belonging	36
Group pride	29

3.1 Supportive Colleagues and Friends

The 14 features of cohesion seemed to coincide with four broader constellations. The first constellation represents features of cohesion that correspond to the formation of supportive relationships.

First, many participants referred to the importance of *trust*. People sought individuals who were trustworthy and honest. In addition, they wanted to be trusted by other people, especially leaders, rather than monitored or criticized unnecessarily. Trust was thus perceived as bidirectional.

Trust is really big. I think if people trust each other they are more likely to be honest.

[My manager] believed in us. She believed that a piece of paper wasn't everything and that no matter what, you can do it. So because she believed in you, it gave you that confidence to go forward.

Second, the majority of participants alluded to the significance of *altruism towards members*. In cohesive teams, members were expected, at least in challenging contexts, to sacrifice their own needs and effort to assist one another.

If you're in a jam, people will help you out. They'll lend you resources or say this is what I'm doing.

In contrast, egocentric perspectives were assumed to impede cohesion:

Everyone kind of felt that they had to fend for themselves... So because you do that, you don't have that team playing. Therefore there become cracks. For example, filling up the sugar, if one person thinks: 'the other person hasn't done it, so why should I?' Then it just continues and snowballs.

Third, participants often alluded to the impact of a *friendly environment* on workplace cohesion. Specifically, friendliness entailed two attributes. In particular, some team members were actively welcoming. In addition, some team members were unguarded instead of reserved.

What I've found is from the minute that I've walked in the door, people look up, people say hello to you every morning. The manager of that service comes from her office and says good morning to everybody, asks how they are and that was done for me from the day I started there.

Where people are willing to just share a little bit about who the person they are is and not just come into the workplace and say: "That's none of your business. My private life's my private life. I don't speak about it here." If everyone in the entire work team did that, it just wouldn't work at all.

3.2 A Sense of Inclusion

Five of these features related to a sense of inclusion rather than exclusion or insecurity. First, many participants alluded to the importance of *belonging*. That is, in cohesive teams, members defined themselves as an accepted part of the workgroup.

They even went as far as not allowing another team to pick me up for a few shifts saying that I was theirs and it gave me a great sense of belonging which in return made me feel more motivated and therefore I was more productive.

There were comments made about the way I dressed and my hairstyle and that sort of thing in a negative way... I never felt 100 percent part of the team.

Second, this sense of belonging often derived from a sense of *identification with group members*. This identification usually reflected similarities across the individuals in their demographics or personality.

The team all had the same level of education and a very similar cultural, socio-economic background, so there was perhaps that kind of connection or understanding of each other straight off the bat.

The mean age of someone in my team is at least 15 to 20 years older than me, so it can be difficult to find things in common with them.

There were matches in personality and that just made that team work really well. There weren't any glowingly distinct types of people in that group.

Third, specific activities or environments may foster this sense of belonging. These events can be referred to as *bonding*. Bonding refers to events in which individuals share emotional experiences, such as challenging projects or enjoyable social outings:

You're in the ground and it's muddy and it's awful and in these situations the job is so bad that you all bond together as if you were mates in a trench in warfare or something like that. So sometimes you have some bad experiences, but if everyone's involved, it brings everyone closer together.

It was a genuine social outing where we all stayed together as a group and we had a meal, had a few drinks and it would go well into the night. I guess during those moments as a group, we felt more like friends than colleagues... It strengthened the bond.

One of my patients had died via suicide and I was the junior member of the team and he a senior. It was a very informal debriefing. [He was] saying: "You know it happens to all of us." It was very normalising and I felt bonded to the entire team through that individual. I guess via what I perceive to be a shared experience, but at different times.

According to some participants, the physical proximity of group members to one another may have facilitated this bonding. Physical compartments, in contrast, were assumed to inhibit bonding.

I guess the structure, the physical structure of the team. They did share a large office so you sort of shared the highs and lows of the work day with everyone.

To actually divide the office into segments and compartments I think is really the opposite of a team.

Fourth, a sense of belonging and bonding is more likely when the individuals enjoy the company of one another. Most participants referred to the importance of this *camaraderie* and capacity to socialize effectively.

My current work environment, it's in hospitality, and probably the thing that makes us work well together is that camaraderie.

We could socialise outside of work as well as in work, so there was that kind of team inside and out.

Fifth, some individuals alluded to the importance of *open communication between group members*, especially during the resolution of decisions.

Everyone could communicate quite openly, honestly and everyone's view be taken into account.

You need the capacity to make decisions that are inclusive. That's another aspect of successful teams. So they're not differentiated, everybody is included in it.

3.3 Shared pursuits

Three of the features related to whether or not individuals feel they are aligned to an overarching goal or endeavour. First, individuals seek teams in which members *share a common purpose* and set of values.

Definitely having a common goal, a common goal to achieve... Working in a drug and alcohol rehabilitation facility, we had a common goal to support people who came into the facility to reach clean time and sobriety.

Part of the reason that we work well together is probably a similarity in the values that we bring to a day's work, where we all believe in a fair day's work for a fair day's pay.

We were all kind of going off and doing our own thing and there wasn't a common goal, which has led to all sorts of conflict.

Second, in cohesive workgroups, members not only share the same purpose or goals but were also committed to these endeavours. This *commitment to the objectives* was manifested by the passion and dedication of group members.

Because everyone was committed they had the desire and the drive to get it done and they enjoyed what they were doing, we were able to delegate different aspects of each assignment and everyone followed through.

Third, *supportive leaders* could inspire this commitment to a shared purpose. In particular, in cohesive workgroups, leaders overtly praised and encouraged achievements and then promoted the merits of this team to other stakeholders.

We got quite a lot of praise from our immediate manager and also from other levels of management about the way that we were able to achieve [our targets] so I think that certainly helped us to feel more connected as a team.

I am a strong believer that there has to be some form of leadership. If there is a lack of leadership then the team will be dysfunctional because people won't know what they are achieving and what their actual roles or goals are.

I think that whoever is in a leadership position really needs to champion the team.

3.4 Group Performance

Finally, some of the features related to task performance rather than interpersonal dynamics. First, in cohesive workgroups, individuals felt proud to be connected to this productive collective.

With my work team there were highly pleasurable times when someone in the department, say a higher research student passed their PhD or got a really good result for their Masters thesis, Then the whole department would actually have a great feeling about that... it definitely contributed to morale.

In contrast, workgroups that were not cohesive did not elicit this group pride.

None of us saw the work we were doing as particularly important except earning an income. It was selling goods which were not made on site and there were no artisan-type qualities to them, where you might be proud of your work or proud that you were putting it in someone's house.

Second, and related to team pride, was workgroup efficacy or success. Indeed, studies indicate that group efficacy increases the likelihood that individuals will identify with this collective (e.g., van Zomeren, Leach, & Spears, 2010).

When you work really hard on a project or whatever it may be in everyday work and you meet your goals, you meet your targets, you successfully complete whatever that may be, I think that's a really good feeling that really brings everyone together.

Finally, besides pride in the group, individuals also respected the qualities of each member.

Respect for each other and also respect for management is such a vital part of a healthy team. It makes such a difference to your quality of work when you actually feel respected.

4. Discussion

This study was undertaken to clarify the perceived features of workgroups that epitomize cohesion. The interviews uncovered 14 distinct features. These features can be divided into four clusters: supportive colleagues, a sense of inclusion, a shared purpose, and group performance.

These features are tangible and, therefore, can be readily converted to questions that gauge cohesion. Table 2 (indeed presents a provisional measure of cohesion, derived from these features. Besides reflecting 1 of these 14 features, each item also needed to fulfil several other criteria. Specifically, to ensure the wording was unambiguous and precise, the principles that were stipulated by Moss and Fleming (2010) were observed. Similarly, to guarantee the wording appears professional to various stakeholders, common grammatical preferences, such as the disinclination to split infinitives, dangle modifiers, or end sentences with prepositions, were also adhered to.

Table 2. Provisional Measure of Cohesion

Item	Corresponding feature	Operates at individuals level or group as a whole
I trust that people in my workgroup will be honest	Trust	Individual
I trust that people in my workgroup will be competent	Trust	Individual
In this workgroup, the manager trusts that people in this workgroup will complete their tasks effectively	Trust	Group
I feel that people in my workgroup will help one another during stressful times	Altruism towards members	Group
I feel that people in this workgroup are willing to sacrifice their own needs to help the group	Altruism towards members	Group
People in my workgroup greet each other warmly	Friendly environment	Group
People in my workgroup are willing to share their private life or feelings to one another	Friendly environment	Group
I feel like I really belong to this workgroup	Belonging	Individual
I feel like an integral member of this workgroup	Belonging	Individual
I feel that people in this workgroup share important similarities with one another	Identification with group members	Group
I feel a sense of connection with people in this workgroup	Identification with group members	Individual
People in this workgroup have shared many emotional experiences together, such as challenging, upsetting, or enjoyable occasions	Bonding	Group
People in this workgroup work in close proximity to one another	Bonding	Group
People in this workgroup enjoy the company of one another	Camaraderie	Group
I like socializing with people in this workgroup	Camaraderie	Individual
People in this workgroup share important information with one another	Open communication between group members	Group
To reach important decisions, people in this workgroup consult one another extensively	Open communication between group members	Group
People in this workgroup share a common goal and purpose	Share a common purpose	Group
People in this workgroup share a common set of values	Share a common purpose	Group
My colleagues are passionate about the goals and objectives of this workgroup	Commitment to the objectives	Group
I feel passionate about the goals and objectives of this workgroup	Commitment to the objectives	Individual
The leaders of this workgroup highlight our achievements and capabilities to other individuals	Supportive leaders	Group
The leaders of this workgroup are encouraging and inspiring	Supportive leaders	Group
The leaders of this workgroup clarify our goals and purpose in the organization	Supportive leaders	Group
In this workgroup, people feel excited whenever one of their colleagues achieves some goal or excels on some task	Group pride	Group
In this workgroup, people feel proud of the role and achievements of this team	Group pride	Group
This workgroup often achieves challenging goals and targets	Workgroup efficacy	Group
People in this workgroup respect the qualities and attributes of one another	Respect of group members	Group
I feel respected by people in this group	Respect of group members	Individual

These items, although more specific than many other measures, are generic enough to be applicable to many work, military, and sports settings. Hence, the same measure of cohesion, in principle, could be utilized in a greater number and diversity of studies. Studies that utilize the same instrument can be integrated and contrasted more effectively, expediting progress on this topic.

The breadth of these items offers some vital implications. In particular, because of this breadth, a variety of established theories and mechanisms might underpin cohesion. To illustrate, because cohesion entails trust and bonding, attachment theory could be applied to characterize the consequences of cohesion (Bowlby, 1973, 1988; Mikulincer, Birnbaum, Woddis, & Nachmias, 2000). Specifically, when individuals trust other people in their environment, memories or schemas of supportive caregivers are activated (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001). These schemas enhance the capacity of individuals to regulate negative emotions (Mikulincer & Florian, 1997) and to solve problems creatively (Mikulincer, Shaver, & Rom, 2011). Cohesion, therefore, should enhance resilience and creativity.

In addition, because cohesion reflects identification with group members, subjective uncertainty reduction theory could also be utilized to predict the ramifications of cohesion (Hogg, 2000, 2007). According to this theory, when individuals are not certain how to behave, they are especially inclined to conform to the norms of the groups with which they identify (Smith, Hogg, Martin, & Terry, 2007). Accordingly, in ambiguous or uncertain settings, the association between cohesion and conformity should become more pronounced.

Many other theories may also be germane to this measure. For instance, because cohesion entails a sense of belonging, the sociometer hypothesis may be relevant to this topic. According to this account, when individuals are excluded, their self-esteem plummets (Leary & Baumeister, 2000). This low self-esteem represents a meter or cue, motivating individuals to consolidate their relationships and to cultivate a sense of belonging (Leary & Baumeister, 2000). Hence, from this perspective, as cohesion diminishes, self-esteem should decline.

Finally, commitment to objectives could mobilize a tendency called spreading of alternatives (Harmon-Jones & Harmon-Jones, 2002). That is, when individuals commit to any pursuit, the benefits of this endeavor become more salient. Commitment to objectives, therefore, should inflate perceptions of team goals.

Despite the insights and richness of information obtained in the present study from the qualitative design, this approach has several limitations that warrant consideration. The critical incident approach was selected in the present study in an effort to help participants elucidate the key components of cohesion. However, it is possible that some of the 14 factors of cohesion that emerged through qualitative analysis are indeed antecedents, or by-products, of cohesion. Recent developments in data collection and modelling of dynamic processes (e.g., ecological momentary assessment and multilevel modelling, respectively) that occur in response to specific events may provide a suitable basis for confirming that our 14 factors are core elements of cohesion rather than simply related to the construct.

The present study identified a variety of components of cohesion that are absent from existing cohesion measures. Several limitations of this study should be addressed in future research. First, although the qualitative analysis uncovered 14 factors of cohesion, some of these factors may indeed be antecedents or consequences of cohesion. Further quantitative analysis will assist in determining this possibility. To illustrate, trust may be a determinant of cohesion; this possibility would be confirmed if characteristics that affect sensitivity to trust, such as attachment style, moderate the association between trust and other facets of cohesion.

An important next step is to evaluate the psychometric properties of our proposed measure, to evaluate how substantially it improves upon these incomplete, existing scales. Specifically, the reliability and factorial structure are needed to confirm that the proposed items tap into a shared underlying construct (cohesion), and comparisons need to be made against other scales to establish criterion and discriminant validity.

Future research is also warranted to estimate the reliability, criterion validity, and discriminant validity of this measure. Structural equation modeling could be used to corroborate the 14 factors as well as gauge whether these factors relate to established determinants and consequences of cohesion, such as common goals, diversity, and personal sacrifice. Development in the present study of this provisional scale is a preliminary step to inform the development of a larger process where content, construct and predictive validity steps will follow.

In conclusion, this study identified 14 core elements for cohesion that can be broadly grouped into four categories: Supportive colleagues, a sense of inclusion, a shared purpose and group performance. From these findings we proposed a provisional measure of cohesion that will need further development, but, in the meantime, this measure may enable researchers to apply a more accurate reflection of the construct cohesion which may lead to a better understanding of determinants and consequences of cohesion.

References

- Ahronson, A., & Cameron, J. E. (2007). The nature and consequences of group cohesion in a military sample. *Military Psychology, 19*, 9-25. <http://dx.doi.org/10.1080/08995600701323277>
- Andrews, M. C., Kacmar, K. M., Blakely, G. L., & Bucklew, N. S. (2008). Group cohesion as an enhancement to the justice-affective commitment relationship. *Group & Organization Management, 33*, 736-755. <http://dx.doi.org/10.1177/1059601108326797>
- Beal, D. J., Cohen, R. R., Burke, M. J., & McLendon, C. L. (2003). Cohesion and performance in groups: A meta-analytic clarification of construct relations. *Journal of Applied Psychology, 88*(6), 989 - 1004. <http://dx.doi.org/10.1037/0021-9010.88.6.989>
- Bowlby, J. (1973). *Separation: Anxiety & anger* (Vol. 2 of attachment and loss). London: Hogarth Press.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Carless, S. A. (2000). Reply to Carron and Brawley. *Small Group Research, 31*(1), 107 - 118. <http://dx.doi.org/10.1177/104649640003100106>
- Carless, S. A., & De Paola, C. (2000). The measurement of cohesion in work teams. *Small Group Research, 31*(1), 71 - 88. <http://dx.doi.org/10.1177/104649640003100104>
- Carron, A. V., & Brawley, L. R. (2000). Cohesion: Conceptual and Measurement Issues. [Journal]. *Small Group Research, 31*(1), 89 - 106. <http://dx.doi.org/10.1177/104649640003100105>
- Carron, A., Widmeyer, W., & Brawley, L. (1985). The development of an instrument to assess cohesion in sport teams: The group environment questionnaire. *Journal of Sport Psychology, 7*, 244-266.
- Chang, Y., Hughes, L. C., & Mark, B. (2006). Fitting in or standing out: nursing workgroup diversity and unit-level outcomes. *Nursing Research, 55*, 373-380. <http://dx.doi.org/10.1097/00006199-200611000-00001>
- Chen, C.-H. V., & Tang, Y.-Y. (2009). Interdependence and organizational citizenship behaviour: Exploring the mediating effect of group cohesion in multilevel analysis. *The Journal of Psychology, 143*(6), 625-640. <http://dx.doi.org/10.1080/00223980903218273>
- Cooke, R., & Sheeran, P. (2004). Moderation of cognition-intention and cognition-behaviour relations: A meta-analysis of properties of variables from the theory of planned behaviour. *British Journal of Social Psychology, 43*, 159-186. <http://dx.doi.org/10.1348/0144666041501688>
- Cota, A. A., Longman, R. S., Evans, C. R., Dion, K. L., & Kilik, L. (1995). Using and misusing factor analysis to explore group cohesion. *Journal of Clinical Psychology, 51*, 308-316. [http://dx.doi.org/10.1002/1097-4679\(199503\)51:2<308::AID-JCLP2270510223>3.0.CO;2-H](http://dx.doi.org/10.1002/1097-4679(199503)51:2<308::AID-JCLP2270510223>3.0.CO;2-H)
- Dion, K. L. (2000). Group cohesion: From 'field of forces' to multidimensional construct. *Group Dynamics: Theory, Research, & Practice, 4*, 1, 7-26. <http://dx.doi.org/10.1037/1089-2699.4.1.7>
- Eys, M. A., Loughhead, T., Bray, S. R., & Carron, A. V. (2009). Development of a Cohesion Questionnaire for Youth: The Youth Sport Environment Questionnaire. *Journal of Sport & Exercise Psychology, 31*, 390-408.
- Forster, J., & Higgins, E. T. (2005). How global versus local perception fits regulatory focus. *Psychological Science, 16*, 631-636. <http://dx.doi.org/10.1111/j.1467-9280.2005.01586.x>
- Friedkin, N. E. (2004). Social Cohesion. *Annual Review of Sociology, 30*, 409-425. <http://dx.doi.org/10.1146/annurev.soc.30.012703.110625>
- Hambley, L. A., O'Neill, T. A., & Kline, T. J. B. (2007). Virtual team leadership: The effects of leadership style and communication medium on team interaction styles and outcomes. *Organizational Behavior and Human Decision Processes, 103*, 1-20. <http://dx.doi.org/10.1016/j.obhdp.2006.09.004>
- Harmon-Jones, E., & Harmon-Jones, C. (2002). Testing the action-based model of cognitive dissonance: The effect of action orientation on postdecisional attitudes. *Personality and Social Psychology Bulletin, 28*, 711-723. <http://dx.doi.org/10.1177/0146167202289001>
- Hausknecht, J. P., Trevor, C. O., & Howard, M. J. (2009). Unit-level voluntary turnover rates and customer service quality: Implications of group cohesiveness, newcomer concentration, and size. *Journal of Applied Psychology, 94*, 1068-1075. <http://dx.doi.org/10.1037/a0015898>

- Heuze, J-P., Bosselut, G., & Thomas, J-P. (2007). Should the coaches of elite female handball teams focus on collective efficacy or group cohesion. *The Sport Psychologist*, 21, 383-399.
- Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 11, pp. 223-255). Chichester, England: Wiley.
- Hogg, M. A. (2007). Uncertainty-identity theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 39, pp. 70-126). San Diego, CA: Academic Press.
- Karn, J. S., Syed-Abdullah, S., Cowling, A. J., & Holcombe, M. (2007). A study into the effects of personality type and methodology on cohesion in software engineering teams. *Behaviour & Information Technology*, 26, 99-111. <http://dx.doi.org/10.1080/01449290500102110>
- Kidwell, R. E., Mossholder, K. W., & Bennett, N. (1997). Cohesiveness and Organizational Citizenship behaviour: A multilevel analysis using work groups and individuals. *Journal of Management*, 23, 775-779. <http://dx.doi.org/10.1177/014920639702300605>
- Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 32, pp. 1-62). San Diego, CA: Academic Press.
- Leonardelli, G. J., Lakin, J. L., & Arkin, R. M. (2007). A regulatory focus model of self-evaluation. *Journal of Experimental Social Psychology*, 43, 1002-1009. <http://dx.doi.org/10.1016/j.jesp.2006.10.021>
- Mikulincer, M., Birnbaum, G., Woddis, D., & Nachmias, O. (2000). Stress and accessibility of proximity-related thoughts: Exploring the normative and intraindividual components of attachment theory. *Journal of Personality and Social Psychology*, 78, 509-523. <http://dx.doi.org/10.1037/0022-3514.78.3.509>
- Mikulincer, M., & Florian, V. (1997). Are emotional and instrumental supportive interactions beneficial in times of stress? The impact of attachment style. *Anxiety, Stress & Coping: An International Journal*, 10, 109-127. <http://dx.doi.org/10.1080/10615809708249297>
- Mikulincer, M., Hirschberger, G., Nachmias, O., & Gillath, O. (2001). The affective component of the secure base schema: Affective priming with representations of attachment security. *Journal of Personality and Social Psychology*, 81, 305-321. <http://dx.doi.org/10.1037/0022-3514.81.2.305>
- Mikulincer, M., Shaver, P. R., & Rom, E. (2011). The effects of implicit and explicit security priming on creative problem solving. *Cognition & Emotion*, 25, 519-531. <http://dx.doi.org/10.1080/02699931.2010.540110>
- Mishra, H., Shiv, B., & Nayakankuppam, D. (2008). The blissful ignorance effect: Pre- versus post-action effect on outcome expectancies arising from precise and vague information. *Journal of Consumer Research*, 35, 573-585. <http://dx.doi.org/10.1086/591104>
- Moss, S. A., & Fleming, A. (2010). *Success at university: What they haven't told you*. Prahran: Tilde Press.
- Mudrack, P.E. (1989). Defining group cohesiveness: A legacy of cohesion. *Small Group Behavior*, 20, 37-49. <http://dx.doi.org/10.1177/104649648902000103>
- Mullen, B., & Copper, C. (1994). The relation between group cohesiveness and performance: An Integration. *Psychology Bulletin*, 115, 2, 210-227. <http://dx.doi.org/10.1037/0033-2909.115.2.210>
- Schermerhorn, J. R., Hunt, J. G., & Osborn, R. N. (2002). *Organizational behavior*. New York: Wiley.
- Senecal, J., Loughhead, T. M., & Bloom, G. A. (2008). A season-long team-building intervention: Examining the effect of team goal setting on cohesion. *Journal of Sport & Exercise Psychology*, 30, 186-199.
- Smith, J. R., Hogg, M. A., Martin, R., & Terry, D. J. (2007). Uncertainty and the influence of group norms in the attitude-behaviour relationship. *British Journal of Social Psychology*, 46, 769-792. <http://dx.doi.org/10.1348/014466606X164439>
- Spink, K. S., Wilson, K. S., & Odnokon, P. (2009). Examining the relationship between cohesion and return to team in elite athletes. *Psychology of Sport and Exercise*. <http://dx.doi.org/10.1016/j.psychsport.2009.06.002>
- Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness. *Group & Organization Management*, 34, 170-205. <http://dx.doi.org/10.1177/1059601108331218>

- Trope, Y., Liberman, N., & Wakslak, C. J. (2007). Construal levels and psychological distance: Effects on representation, prediction, evaluation, and behavior. *Journal of Consumer Psychology, 17*, 83-95. [http://dx.doi.org/10.1016/S1057-7408\(07\)70013-X](http://dx.doi.org/10.1016/S1057-7408(07)70013-X)
- vanZomeran, M., Leach, C. W., & Spears, R. (2010). Does group efficacy increase group identification? Resolving their paradoxical relationship. *Journal of Experimental Social Psychology, 46*, 1055-1060. <http://dx.doi.org/10.1016/j.jesp.2010.05.006>
- von Treuer, K.M, Fuller-Tyskiewicz, M. & Atkinson, B. (2010). A Factor Analytic Study of the Factors of Co-worker Cohesion. *Australian and New Zealand Journal of Organisational Psychology, 3*, 42-53. <http://dx.doi.org/10.1375/ajop.3.1.42>
- Wu, C., Neubert, M. J., & Yi, X. (2007). Transformational leadership, cohesion perceptions, and employee cynicism about organizational change: The mediating role of justice perceptions. *Journal of Applied Behavioral Science, 43*, 327-351. <http://dx.doi.org/10.1177/0021886307302097>