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Alyson Meister

Sherry Thatcher
Sherry.Thatcher@moore.sc.edu

Jieun Park

Mark Maltarich

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Toward A Temporal Theory of Faultlines and Subgroup Entrenchment

Alyson Meister^a, Sherry M.B. Thatcher^b, Jieun Park^c and Mark Maltarich^b

^aIMD Business School; ^b University of South Carolina; ^c Drake University

ABSTRACT A wealth of scholarship shows that faultlines drive important outcomes for groups. However, despite mounting calls for incorporating time in the group literature, our understanding of faultlines is bound by assumptions that constrain our ability to incorporate the crucial role of time as it relates to faultlines and their effects. Drawing together guidance for exploring temporal phenomena, with the faultline and group literatures, we embark on an understanding of the temporal nature of faultlines. We distinguish faultlines from specific subgroup configurations by introducing the concept of *subgroup entrenchment* – the agreement among group members about the existence and composition of strong and stable subgroups. We highlight how a group's history influences its current and future experience of faultlines and subgroups, by exploring concepts such as duration, temporal alignment, and sequencing patterns. Our theory highlights how the dynamic features of multiple faultlines can influence subgroup entrenchment at any point in time.

Keywords: faultlines, faultline activation, polarization, subgroups, subgroup entrenchment, temporal theory

INTRODUCTION

A burgeoning body of literature shows that faultlines (hypothetical dividing lines that can split a group into subgroups based on multiple attributes; adapted from Lau and Murnighan, 1998) have profound implications for subgroup formation (Carton and Cummings, 2012), group processes (e.g., Chiu and Staples, 2013; Schölmerich et al., 2016), and group outcomes (e.g., Bezrukova et al., 2016; Crucke and Knockaert, 2016;

Address for reprints: Alyson Meister, IMD Business School, Chemin de Bellerive 23, Box 915, 1003 Lausanne, Switzerland (Alyson.meister@imd.org).

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Spoelma and Ellis, 2017; for a review, see Thatcher and Patel, 2012). While this highlights their importance for group processes and outcomes, studies of faultlines generate mixed – and often contradictory – findings, leaving us with ‘enormous untapped potential in our understanding, and our conceptualization of faultlines’ (Antino et al., 2018). In particular, current assumptions fuel empirical approaches that constrain our ability to incorporate and investigate the crucial role of time as it relates to faultlines and their effects.

One of these constraining assumptions is the tendency to conceptualize – and thus examine – faultlines as a stable and enduring property of a group. This approach neglects that phenomena (e.g., faultlines), and as a consequence their effects, can change and evolve over time (Hausknecht et al., 2011; Wageman et al., 2012). Time and change are inherent to groups; groups evolve and accumulate a shared history, which can have profound impacts on how phenomena within the group are experienced (e.g., Chang et al., 2003; Harrison et al., 2002; Kozlowski et al., 1999; Marks et al., 2001; Roe et al., 2012; Vergne and Durand, 2010). Considering ‘when things happen’ is crucial to appropriately examine causal relationships (Mitchell and James, 2001) and a handful of studies recognize the importance of time for understanding faultlines (e.g., Lau and Murnighan, 1998; Thatcher and Patel, 2012), or incorporate a form of temporality into their studies (e.g., simulation: Mäs et al., 2013; longitudinal data collection: Antino et al., 2018; Ou et al., 2017). However, the role of time in the faultline literature remains cursory, peripheral, or implied – in particular, the faultline itself is assumed to endure (though its effects may change). This is problematic, because without a targeted focus on exploring faultlines over time, researchers take the chance that their findings reflect processes that may occur briefly, periodically, or in an inconsistent manner (Leenders et al., 2016; Mathieu et al., 2017).

Another tendency of the faultline literature which constrains our progress is the focus on ‘hypothetical’ faultlines (i.e., potential faultlines) based on one set of attributes, despite evidence that circumstances might make different attributes salient at different points in time (Pearsall et al., 2008). Potential faultlines based on objective attributes do not change, but subgroup divisions may ebb and flow over time as different contexts and individual perceptions may highlight the salience of different sets of attributes. The reality is that potential faultlines exist on a variety of different attributes and several potential faultlines may exist in any group. For instance, a group can have one potential faultline based on identity, one based on knowledge, and one based on resources, all becoming salient and impactful at different times in a group’s life (Carton and Cummings, 2012; Harrison et al., 1998). When we focus on one potential faultline (even if we explore outcomes at different time periods) rather than a set of fluctuating faultlines, we run the risk of making spurious associations between a faultline and its outcomes.

Our development of a temporal theory of faultlines provides a foundation for addressing the impact of faultlines on groups over time. To do so we draw on literature that calls for the dynamic conceptualization of a phenomena (e.g., faultlines) that have traditionally been approached as stable (e.g., Ancona et al., 2001a; Wageman et al., 2012). We specifically draw on the parameters described by Roe (2008), Roe and colleagues (2012) and Tschan and colleagues (2009) to explain how time shapes faultlines and their effects. In the development of our theory we thus: (1) reconceptualize faultlines as dynamic

phenomena, (2) identify their key temporal features (e.g., duration, patterns, and trajectories) and (3) establish the relationship of these temporal features on important group outcomes. Overall, our theory suggests that the existence and strength of subgroups at any moment in time depends not only on features currently studied in the faultline literature (e.g., faultline strength, type, and activation), but also on a group's shared history. We explore how a group's experience of faultlines accrues over time to influence subgroups and patterns of interaction among group members. Our theory contributes to the faultline and group literature in several ways.

First, we introduce the new construct of *subgroup entrenchment*. Reflecting a group's accumulated reactions to faultlines over time, we define subgroup entrenchment as a unitary cognitive construct reflecting agreement among group members about the existence and composition of strong and stable subgroups. The existence of subgroups is consequential for groups because they influence members' attitudes toward, views of, and interactions with peers (Abrams et al., 1990; Carton and Cummings, 2012; Lau and Murnighan, 1998). Subgroup entrenchment refers to a specific social configuration, including 1) number of subgroups (which could be zero), 2) the specific members of each subgroup, and 3) the psychological distance between subgroups. More entrenched subgroups reflect more stable subgroups, supported by widely shared norms and routines for interaction and communication. Subgroup entrenchment can change over time with important consequences.

By decoupling the faultline activation process from the subgroups they produce, subgroup entrenchment is the first temporally-related faultline construct which acknowledges a group's accruing and dynamic experience of faultlines. We explain how the current state of subgroup entrenchment results from a group's accumulated experience and also shapes its future. Diverging from the existing understanding of faultlines as inherently stable (see: Thatcher and Patel, 2012), the concept of subgroup entrenchment allows us to explore temporal features of faultlines that have been traditionally examined cross-sectionally (e.g., strength, type, and activation).

Second, to develop the concept of subgroup entrenchment and its trajectory over time, we theorize about its antecedents, leading us to introduce several new temporally-related features of faultlines. Drawing together the group literature on temporality with the faultline literature, we introduce the concept of a triggered faultline (a potential faultline whose underlying attributes have become salient and have begun the process of faultline activation), and the related concepts of triggered faultline duration (the length of time a particular type of potential faultline's attributes remain salient), temporal type alignment (the degree of consistency in the number of subgroups and their distinct membership across two or more faultlines over time), and triggered faultline sequencing (the distinct pattern of triggered faultlines and their characteristics). These features together influence subgroup entrenchment and provide a new foundation for how faultlines might be understood and studied over time.

Finally, we offer two illustrative examples that describe how the accruing effects of multiple faultlines influence subgroup entrenchment and its trajectory in a workgroup. These examples provide guidance to future scholars and practitioners so that they may apply our theory, and ask new questions about the relationship between faultlines, subgroup entrenchment, and group outcomes over time. By specifying how faultline features

collectively and temporally influence subgroup entrenchment, we explain some of the mixed findings in the faultline literature, and offer insight into how practitioners might craft interventions to capitalize on the constructive – while mitigating the destructive – potential of faultlines in groups.

THE NATURE OF FAULTLINES: WHAT WE KNOW

Exploring the temporal nature of faultlines requires reviewing and integrating the features that researchers acknowledge as important to examining faultlines: strength, type, and activation. These features are often used to investigate the impacts of faultlines, yet mostly they are studied for a single potential faultline, are assumed to be stable, and are examined with little consideration of how they may evolve. See Table I for a summary of these current constructs and the temporal constructs we develop.

Potential Faultline Strength

Potential faultline strength refers to the degree to which group members' individual attributes are aligned (Lau and Murnighan, 1998; Thatcher et al., 2003). A strong potential faultline indicates that there is clear alignment among a set of attributes, resulting in homogenous subgroups; a weaker potential faultline reflects that attributes are loosely aligned. No faultline implies that there is no alignment of the attributes of interest (e.g., complete homogeneity or complete heterogeneity). Most initial research on faultlines focused on these 'hypothetical' divisions, calling them 'potential', 'objective', or 'dormant' (e.g., Lau and Murnighan, 2005; see Thatcher and Patel, 2012) to highlight that they reflect a researcher's determination of the presence of a faultline based on the configuration of attributes (e.g., gender and age). As their name implies, they are distinct from, and theoretically antecedent to actual subgroup divisions.

Faultline Type

A central feature of potential faultlines is that they are often built around sets of conceptually similar attributes, but the themes that unite them can vary considerably. Faultlines were once conceptualized primarily based on demographic attributes (e.g., gender, age, ethnicity, and nationality), but researchers now investigate faultlines based on a range of other attributes such as functional background, educational background, job tenure, personality type, language proficiency, goal differences, status disparity, and organizational background (e.g., Bezrukova et al., 2012; Carton and Cummings, 2012, 2013; Ellis et al., 2013; Hinds et al., 2014; Hutzschenreuter and Horstkotte, 2013; Kulkarni, 2015; Molleman, 2005; Ren et al., 2015). The value in understanding the underlying attributes or identities that make up a faultline is that different types of potential faultlines operate through different mechanisms and vary in the magnitude and timing of their effects. In developing our theory we specifically draw on Carton and Cummings' (2012) suggested taxonomy for subgroup types according to three main categories: identity-based subgroups (based on members' surface-level and deep-level faultlines); knowledge-based subgroups (based on faultlines around information processing and

Table I. Definitions of faultline constructs

<i>CURRENT FAULTLINE CONSTRUCTS</i>		
<i>Features</i>	<i>Definition</i>	<i>Relevant Works</i>
(Potential) Faultline	Hypothetical dividing lines that can split a group into subgroups based on multiple attributes	Lau and Murnighan, 1998
(Potential) Faultline strength	The degree to which group members' individual attributes are aligned	Lau and Murnighan, 1998; Thatcher et al., 2003
(Potential) Faultline type	Common category of attributes that underlie a potential faultline. For example, faultlines based on race, ethnicity, and gender could be labelled 'identity-based' faultlines	Carton and Cummings, 2012
Faultline activation	A process that occurs when the social categorizations that define a faultline are made salient by a particular trigger	Jehn and Bezrukova, 2010
<i>TEMPORAL FAULTLINE CONSTRUCTS</i>		
<i>Features</i>	<i>Definition</i>	<i>Relevant Attributes</i>
Subgroup entrenchment	A unitary cognitive construct reflecting agreement among group members about the existence and composition of strong and stable subgroups	<ul style="list-style-type: none"> • Shared group construct • Distinct from potential faultlines • Consequence of faultlines • May vary considerably over time
Triggered faultline	A potential faultline whose underlying attributes have become salient and have begun the process of faultline activation	<ul style="list-style-type: none"> • Does not automatically or immediately produce subgroups consistent with the faultline
Triggered faultline strength	The strength of a specific potential faultline that has become triggered	<ul style="list-style-type: none"> • Property is inherited from a potential faultline • Refers to a faultline that has been triggered
Triggered faultline duration	The length of time a particular type of potential faultline's attributes remain salient	<ul style="list-style-type: none"> • Typically driven by events or changes in group context
Temporal type alignment	The degree of consistency in the number of subgroups and their distinct membership across two or more faultlines over time	<ul style="list-style-type: none"> • Conceived as a continuum between non-aligned and aligned
Triggered faultline sequencing	The distinct pattern of triggered faultlines and their characteristics	<ul style="list-style-type: none"> • For example, a strong-strong-weak sequence can influence a group differently from a weak-strong-strong triggering sequence of the same potential faultlines.
Subgroup entrenchment trajectory	The slope of a group's subgroup entrenchment over time	<ul style="list-style-type: none"> • Consequence of triggered faultlines, their strength, duration, alignment, and sequence

content); and resource-based subgroups (based on faultlines around status differentials and access to power or materials).

The Faultline Activation Process

Perceived divisions within groups are the primary causal mechanism underlying faultlines, and have been referred to as ‘activated faultlines’ (e.g., Jehn and Bezrukova, 2010) or ‘active faultlines’ (e.g., Zanutto et al., 2011). Rather than a state, we view faultline activation as a process that occurs when the social categorizations that define a faultline are made salient by a particular trigger (Jehn and Bezrukova, 2010). The activation process for faultlines can be triggered by a number of characteristics of the group context such as location (Polzer et al., 2006), organizational crises (Meyer et al., 2015), or informal networks (Ren et al., 2015). Chrobot-Mason et al. (2009) offered a typology of five types of faultline triggers: differential treatment, different values, assimilation, insult or humiliating action, and simple contact.

Researchers have acknowledged that the division of a group into subgroups is an important determinant of faultline effects (Jehn and Bezrukova, 2010; Pearsall et al., 2008). Potential faultlines are determined by the alignment of objective attributes of group members, but it is often unclear which attributes are relevant in a particular situation. Furthermore, the salience of attributes can change over time based on a group’s task or circumstance. Consistent with theory suggesting that faultlines exert their impact through changes in patterns of social interaction (e.g., Jehn and Bezrukova, 2010; Lau and Murnighan, 1998, 2005), there is evidence that potential faultlines are impactful to the extent they capture *relevant* social categories (Meyer et al., 2011). Thus, the divisions group members actually perceive are more influential than potential or hypothetical divisions (Chiu and Staples, 2013; Jehn and Bezrukova, 2010; Pearsall et al., 2008; Thatcher and Patel, 2012).

Importantly, prior studies have focused on the existence of subgroups, for instance by asking only about whether a group has ‘divided into subsets of people’ (e.g., Cronin et al., 2011, p. 837). Such measures capture the existence of subgroups regardless of membership or origin – they cannot implicate any particular potential faultline (for an exception see Adair et al., 2017). Using this approach, activated faultlines might arise from the potential faultlines assumed in the researcher’s measure, or from some unmeasured potential faultline. Consistent with this logic, Meyer et al. (2011) found that the effect of potential faultlines on information elaboration depends on whether group members viewed the underlying attributes as salient. A recent study developed an activated faultline measure that incorporates both the potential faultline as well as the perception of subgroups based on the attributes that make up the faultline, and found that activated faultlines measured this way influenced status conflict and performance (Antino et al., 2018).

This line of reasoning highlights the role of tangible subgroups as the primary mechanism underlying faultline effects. Potential faultlines can exist for any set of attributes, but only those that relate to group members’ identity, sense of belonging, and interactions with one another will be influential. Any potential faultline could be dormant at a point in a group’s life cycle, but become influential when the attributes underlying the faultline are made salient. This is consistent with the work of Harrison et al. (2002), who found

that surface-level diversity has more impact in the early stages of group activity, and deep-level diversity becomes more important after some time has passed. Importantly, there is no guarantee that a faultline based on less salient attributes will cause a particular subgroup structure. To maintain a distinction between potential faultlines and their consequences, we use the term *triggered faultline* to refer to a potential faultline whose underlying attributes have become salient and have begun the process of faultline activation. Triggered faultlines are related to but conceptually distinct from the consequent subgroups. An important characteristic of triggered faultlines is their *triggered faultline strength*, which refers to the strength of a specific potential faultline that has been triggered.

ADVANCING A TEMPORAL UNDERSTANDING OF FAULTLINES

While the current faultline features have been well-studied (e.g., Liu et al., 2019; Meyer et al., 2014; Thatcher and Patel, 2012), they imply two relevant theoretical perspectives that have received little attention. First, the recognition that different faultlines may be triggered at different times implies that a group's history may indeed be as influential as its present, exposing a need to view subgroups as separate from the characteristics of any individual faultline. Thus, the subgroups within a group have some level of inertia, but may change over time. Various potential faultlines that exist within the group may be triggered at different times and shape group interactions, but the accrued history of subgroups matters. In sum, the membership of actual subgroupings may coincide with a particular faultline, but the actual subgroups and the faultline are conceptually independent.

Second, when a potential faultline is triggered, the group it influences almost always already has a social structure. Previously triggered faultlines – their strength, type, and duration – have helped to shape that social structure, which is likely to mitigate or accentuate the new influence. For example, a simulation study found that subgroup polarization caused by faultlines can be overcome by crosscutting members who function as bridges across subgroups over time (Mäs et al., 2013). We need theory to help us understand the importance of multiple triggered faultlines and their relation to each other, so we can better predict and influence faultlines and subgroup behaviour over time.

Time and Groups

With a growing awareness of the importance of time in organizations, literature theorizing about time (e.g., Huy, 2001; Lord et al., 2015) and examining its effects at the individual (Jansen and Shipp, 2019; Shipp and Cole, 2015), group (e.g., Maruping et al., 2015), and organizational levels (e.g., Hopp and Greene, 2018; Pérez-Nordtvedt et al., 2014) has begun to flourish. A review (e.g., Ancona et al., 2001b) highlights several categories of temporal exploration, including 'types' of time (e.g., objective or clock time, cyclical time, event time, and life cycles; McGrath, 1991; Tschan et al., 2009), mapping activities to time (e.g., rate, duration, scheduling, and transformations over time; Ariely and Carmon, 2000; Reilly et al., 2014), and subjective conceptualizations of time with individuals and groups (e.g., temporal mental models, time frame orientation, entrainment, temporal focus, and time perspective; Bakker et al., 2013; Halbesleben et al., 2003; Huy, 2001;

Nuttin, 1985). These models have in common the fundamental ideas that the present is fleeting, shaped by the past, and influential on the future.

Despite these advancements, time is still rarely studied in group research (Mathieu et al., 2018; Roe et al., 2012), reinforcing calls for the dynamic reconceptualization of important phenomena traditionally understood and examined as stable (Wageman et al., 2012). Neglecting temporally-related aspects of phenomena can result in critical errors in our understanding, for example assuming that findings from short-term studies remain constant over time (when they could in reality, disappear over time), or missing key phenomena in a group that might occur briefly or periodically (e.g., McGrath et al., 2000; Tschan et al., 2009). Because phenomena evolve over time (Hausknecht et al., 2011), and time and change are inherent in groups, to better understand and predict group behaviour requires adopting a temporal approach.

Given the fragmented nature of the literature, applying a temporal lens is not straightforward. Roe (2008), Roe and colleagues (2012) offer the following broad pathways: (1) to identify the dynamic features of a particular phenomenon, (2) to explore temporal relationships, and (3) to identify long-term constancy and change in phenomena and their interrelationships. More specifically, Tschan and colleagues (2009) offer concrete parameters scholars might draw on to explore temporal phenomena in groups, such as duration, frequency, temporal patterns of different events, and trends over time.

Combining and building on these broad foundations, we develop our temporal theory of faultlines. We begin by distinguishing subgroups from the faultlines that cause them by introducing subgroup entrenchment – a novel concept which allows us to theorize about the behavioural impact of triggered faultlines over time. We then elaborate the key mechanisms and relationships influencing subgroup entrenchment (e.g., by introducing the concepts of triggered faultline duration, temporal type alignment, and triggered faultline sequencing) and explain how these combine to influence changes in a group's subgroup entrenchment. Finally, we provide two examples to illustrate our theory.

Distinguishing Faultlines from Subgroups over Time

Applying a temporal lens to faultline research highlights the need to consider subgroups as distinct from, but closely and causally related to potential faultlines and triggered faultlines. A potential faultline can be conceived as having any set of attributes as its basis. However, if the attributes are not salient to group members, the potential faultline is unlikely to cause actual subgroup divisions (Meyer et al., 2011; Pearsall et al., 2008). Nevertheless, subgroups could form on the basis of a different potential faultline, diversity on a single salient attribute, or some other circumstance (Homan et al., 2007).

Another reason to distinguish between potential faultlines and subgroups is that subgroups can change more readily than potential faultlines. Group members' backgrounds and demographic characteristics are unlikely to change, meaning that the potential faultlines associated with these attributes are stable. However, changes in context could make some demographic differences more salient. Pearsall and his colleagues (2008), for instance, showed that elements of the task can trigger the activation process. Many contexts and circumstances can trigger faultlines, which has been shown to be important to understanding subgroup division and thus to predicting inter-subgroup behaviour (e.g.,

Chrobot-Mason et al., 2009; Jehn and Bezrukova, 2010; van der Kamp et al., 2015). However, to understand how faultlines affect a group across the life of that group, we need to grasp not only how a faultline impacts the group at a point in time, but how the subgroups derived from previous faultline experiences influence future interactions relating to faultlines.

Subgroup Entrenchment

To build on the distinction between faultlines and the subgroups they may produce over time, we introduce the concept of *subgroup entrenchment*. We define subgroup entrenchment as a unitary cognitive construct reflecting agreement among group members about the existence and composition of strong and stable subgroups. Elaborating on key aspects of the definition, we first note that this construct is a subjective, cognitive construct built on group members' shared understanding of the social structure of their group (Kozlowski and Klein, 2000). Second, we view this construct as a unitary construct, meaning it represents an overall assessment rather than separate judgments about strength and stability. Third, this construct is a group-level construct built on the consensus of all group members, although we acknowledge that meaningful variance might exist across subgroups or individuals. Thus, subgroup entrenchment is conceptually distinct from potential faultlines, and can be a consequence of triggered faultline strength.

Subgroup entrenchment begins the moment a group starts working together, and its increasing (or decreasing) trajectory over time represents reinforcing (or weakening) subgroup entrenchment. More entrenched subgroups are those that are more widely recognized, strongly felt, and agreed upon by group members. Members of groups with more entrenched subgroups will recognize that they belong to a subgroup with whom they interact more often, feel more emotionally connected, and have more in common. We expect members of groups with less entrenched subgroups to feel a more uniform connection with all other group members and to interact with all other group members relatively equally. The interaction patterns within and between entrenched subgroups come to be seen as expected, normal, and enduring. Previous research indicates that the existence of subgroups within an overall group is consequential, because subgroups influence members' attitudes toward, views of, and interactions with peers (Abrams et al., 1990; Carton and Cummings, 2012; Lau and Murnighan, 1998). However, a concentration primarily on whether subgroups exist (or not) inhibits our understanding of the implications associated with the persistence of subgroup configurations, and the ways they change in response to triggered faultlines.

THE ORIGINS OF SUBGROUP ENTRENCHMENT

Origination from a Single Faultline

In this section, we elaborate on the relationship between various faultline features and subgroups with an emphasis on how subgroup entrenchment develops. Specifically, we stress that the strength and duration of a triggered faultline are important factors in the development of subgroup entrenchment.

Triggered faultline strength. Existing theory and evidence supports the idea that stronger potential faultlines more strongly influence groups (e.g., Bezrukova et al., 2016; Crucke and Knockaert, 2016; see Thatcher and Patel, 2012). These effects are theorized to occur because faultlines define subgroups of members that are both similar to each other and distinct from members of other subgroups (Lau and Murnighan, 1998; Thatcher and Patel, 2012). To exert strong influence, however, a potential faultline must be based on attributes that are salient to group members (Meyer et al., 2011) – that is, something about the group, its task, or environment must trigger the faultline in the group. Existing theory is consistent with the idea that the subgroups resulting from a particular triggered faultline will match the subgroup configuration of that faultline (Antino et al., 2018).

Once triggered, we thus expect that stronger faultlines will produce subgroups that are more entrenched, all else equal. Stronger triggered faultlines define subgroups that are more homogeneous and more clearly separated from other subgroups, and therefore will be more suggestive of members' in-subgroups and out-subgroups. The result is group members who more clearly identify with in-subgroup members and see themselves as more distinct from out-subgroup members (Tajfel and Turner, 1986; Turner, 1985; Turner et al., 1987). Although this causal impact largely follows prior work on the relationship between potential faultlines and subgroups, it represents an important and fundamental aspect of subgroup entrenchment. Accordingly, we predict:

Proposition 1: Triggered faultline strength influences the membership of subgroups, such that the subgroup configuration is consistent with the triggered faultline.

Proposition 2: Triggered faultline strength positively influences subgroup entrenchment.

Triggered faultline duration. A critical temporal feature of faultlines and driver of subgroup entrenchment is *triggered faultline duration*, which we define as the length of time a particular type of potential faultline's attributes remain salient. During this period, the activation process is underway – a group recognizes a once-dormant division and begins to divide into actual subgroups. Considering that external forces or events (e.g., task type) can trigger a particular faultline (Lau and Murnighan, 1998; Pearsall et al., 2008), it can remain triggered until a subsequent event triggers the activation process of a different faultline. We assume the activation process (but not its consequences) to be binary such that a faultline is either triggered or not at a given time. We further assume that primarily one faultline is triggered at a time. Either of these assumptions could be relaxed without damage to our central premises.

Previous temporal research has found that repeated behaviours (e.g., interacting primarily within subgroups) can become habitual and automatic, and therefore continue to influence and reinforce later behaviour (Aarts et al., 1998; Ajzen, 2002). Further, the duration of relational interactions in a group's history can predispose the group to experiencing the *same* interactions in the future (Leenders et al., 2016). Together this means that when groups experience strong triggered faultlines for a long period, members can become accustomed to working in and interacting with their subgroups, making these groups more persistent, habitual, and more entrenched than groups that experience strong triggered faultlines for a short period.

Event system theory (Morgeson et al., 2015) further explains that events that last longer are more influential than those that last for a short period. A study on events and group functioning found that event duration was positively associated with group disruption (Morgeson and DeRue, 2006). Both lines of reasoning suggest strong faultlines that remain triggered for a longer duration will more strongly influence subgroup entrenchment. Conversely, when strong triggered faultlines exist for a short duration, their effect on subgroup entrenchment will be less impactful as the behaviour has yet to become habitual and automatic.

Although the impact of triggered faultline strength on subgroup entrenchment will uniformly strengthen with duration, the direction of this impact may depend on the strength of the potential faultline that has become triggered. Groups that experience very weak triggered faultlines for a long period (indicating that group members do *not* experience psychologically divided subgroups) will become *less* disposed to view themselves as members of subgroups. That is, as groups become more accustomed to working with the group as a whole rather than subgroups, they will identify and feel more connected to the overall group rather than any particular subgroup (Sherif et al., 1961). Thus, long-lasting weak triggered faultlines weaken subgroup entrenchment over time. Thus, we predict:

Proposition 3: The strength and duration of a triggered faultline interact to influence subgroup entrenchment, such that a) duration of a strong triggered faultline positively influences subgroup entrenchment over time, and b) duration of a weak triggered faultline negatively influences subgroup entrenchment over time.

Origination from Multiple Faultlines

So far, our logic regarding how triggered faultline strength and duration influence subgroup entrenchment has focused on the effect of a single faultline, but different faultlines can affect a group in different ways and at different times. The consideration of how multiple types of faultlines based on different attributes influence subgroup entrenchment differs greatly from considering a single faultline. For example, imagine a group that is described by two strong faultlines: one based on demographics, and one based on professional background and task. A single faultline based on all attributes could be moderate or weak, and it might lead us to predict that no subgroups would develop. However, viewing this group as having two strong faultlines presents a different picture. The demographic faultline might be triggered when the group first meets as demographics are immediately apparent (Byrne, 1971; Harrison et al., 1998). This creates a subgroup aligned with the demographic faultline. If the group takes on a diversity-related task, their knowledge-based faultline (based on professional background and task experience) may become triggered. At this point, the degree to which their subgroup configuration changes in response to a knowledge-based faultline is related to the entrenchment of the existing demographic-based subgroup.

Subgroup entrenchment and the effects of triggered faultline strength. A wealth of research shows that historical experiences shape both the present and the future (e.g., Pierson, 2000; Vergne

and Durand, 2010). This is because past events or experiences can serve as ‘perceptual anchors’, influencing the way actors (in our case, groups) are likely to perceive and interpret future events (Ballinger and Rockmann, 2010; Morgeson et al., 2015). Important social interactions, experiences, or events in a group’s history (e.g., the experience of strong triggered faultlines) can become encoded and embedded in the memories of group members (Conway et al., 2003). According to this logic, a group’s ongoing interactions may have important implications for subsequent experiences. A shared experience of a strong triggered faultline, subgroup entrenchment, and interactions over time can predispose group members to view future interactions through this lens.

Temporal research, and in particular research surrounding gestalt characteristics (Ariely and Carmon, 2000, 2003) suggests that the group’s accumulative history of subgroup entrenchment at any point in time, or *accrued* subgroup entrenchment, will influence the impact of a newly triggered faultline’s strength on current subgroup entrenchment. Temporal literature highlights that actors draw on both static (e.g., end-state, or current evaluations) and past dynamic (e.g., trends over time) characteristics to make sense of and evaluate their experiences in the present, and to make future predictions. For example, Liu et al. (2012) showed how an employee job satisfaction trajectory (changes in job satisfaction over time) influences job exit even while controlling for the static level of job satisfaction in the moment (see also Chen et al., 2011). Similarly, Hausknecht and colleagues (2011) examined what they call ‘justice trajectories’ – trends and current levels of fairness perceptions in organizations – to find that the trajectory over time helped to explain variance in distal work outcomes. Applied to faultlines, this leads us to believe that at any moment in time, subgroup entrenchment is not only influenced by a triggered faultline, but also by the group’s history of subgroup interactions. For example, a group may – at a certain point in time – temporarily experience subgroups in a given context (e.g., a debate about diversity), but this triggered faultline may be inconsequential if the group has a long history of operating as a single entity (less entrenched subgroups).

Proposition 4: The impact of triggered faultline strength on subgroup entrenchment is influenced by accrued subgroup entrenchment, such that the effect is stronger when subgroup entrenchment is low.

A triggered faultline can work in opposition to the current state – for example, if the triggered faultline is misaligned with accrued subgroup entrenchment, the group may avoid subgroup entrenchment based on the current triggered faultline. This low alignment occurs when any triggered faultline implies a different subgrouping structure from one that is entrenched – described as cross-cutting or crisscrossing (Mäs et al., 2013; Rico et al., 2012). On the other hand, if a faultline is triggered and is aligned with accrued subgroup entrenchment, the current subgroups will become more entrenched. We thus argue that at any point in time, a group’s current experience of a triggered faultline is influenced by its alignment with its shared history, represented by its accrued subgroup entrenchment.

Proposition 5: The impact of triggered faultline strength on subgroup entrenchment is influenced by its alignment with accrued subgroup entrenchment, such that a) high alignment strengthens the relationship between triggered faultline strength and

subgroup entrenchment, and b) low alignment weakens the relationship between triggered faultline strength and subgroup entrenchment.

Temporal type alignment. We have explained that subgroup entrenchment results from previously triggered faultlines, and that a group's accrued subgroup entrenchment alters the effects of newly triggered faultlines. Together, these logical premises imply that the degree to which multiple faultline types align with one another when they are sequentially triggered over time will contribute to subgroup entrenchment. We call this construct temporal type alignment, defined as the degree of consistency in the number of subgroups and their distinct membership across two or more faultlines over time. Sets of faultlines with congruent subgroup configurations are strongly aligned, and sets of faultlines that imply different subgroups are weakly aligned. We draw on the faultline and related literatures (Lau and Murnighan, 1998; Tajfel and Turner, 1986; Turner, 1985; Turner et al., 1987) to help us unpack the effects of temporal type alignment.

From the identity literature, we know that individuals can belong to, and classify themselves as, a part of multiple different groups (e.g., Ashforth and Johnson, 2001; Leavitt et al., 2012; Ramarajan, 2014). These different self-categorizations are relatively more or less important to driving behaviour and cognition at different times (Stryker and Serpe, 1982, 1994). By extension, group members can also classify themselves as part of several faultline-based subgroups when working in a group, such as identity-based subgroups (e.g., based on gender, age, or religion), knowledge-based subgroups (e.g., based on his or her profession), or resource-based subgroups (e.g., based on his or her job title; Carton and Cummings, 2012). At different points (i.e., when triggered), particular faultlines will be more relevant to driving subgroup interactions than others. A strong triggered faultline may become less relevant as new faultlines are triggered, but its impact may persist as a divisive force in the group, particularly if it has engendered highly entrenched subgroups.

We first explain how high temporal type alignment (see Figure 1a) strengthens subgroup entrenchment. High temporal type alignment exists when triggered faultline types over time result in similar subgroup compositions. For instance, a group experiences high temporal type alignment if a triggered identity-based faultline is followed by a triggered knowledge-based faultline that has an identical subgroup configuration. We propose that when triggered faultlines are highly aligned over time, they will reinforce existing subgroups and thus increase subgroup entrenchment. This is consistent with the categorization-elaboration model that suggests that when *several* similar attributes align between individuals (e.g., all women in a group are also in their early 30s), social categorization becomes more likely and accessible than when differences cross-cut each other (van Knippenberg et al., 2004). Further, Lau and Murnighan (1998) argued that the greater the number of attributes aligned in a group at one point in time, the stronger the effect of potential faultlines. Developing this idea further, we argue that *over time*, as different faultline types are triggered, consistent subgroup composition (i.e., temporal type alignment) will strengthen subgroup entrenchment.

It is important to note that the concept of temporal type alignment is different from a single faultline built on a broader range of attributes – the existing literature is clear that distinct potential faultline types have different connections to identity, outcomes,

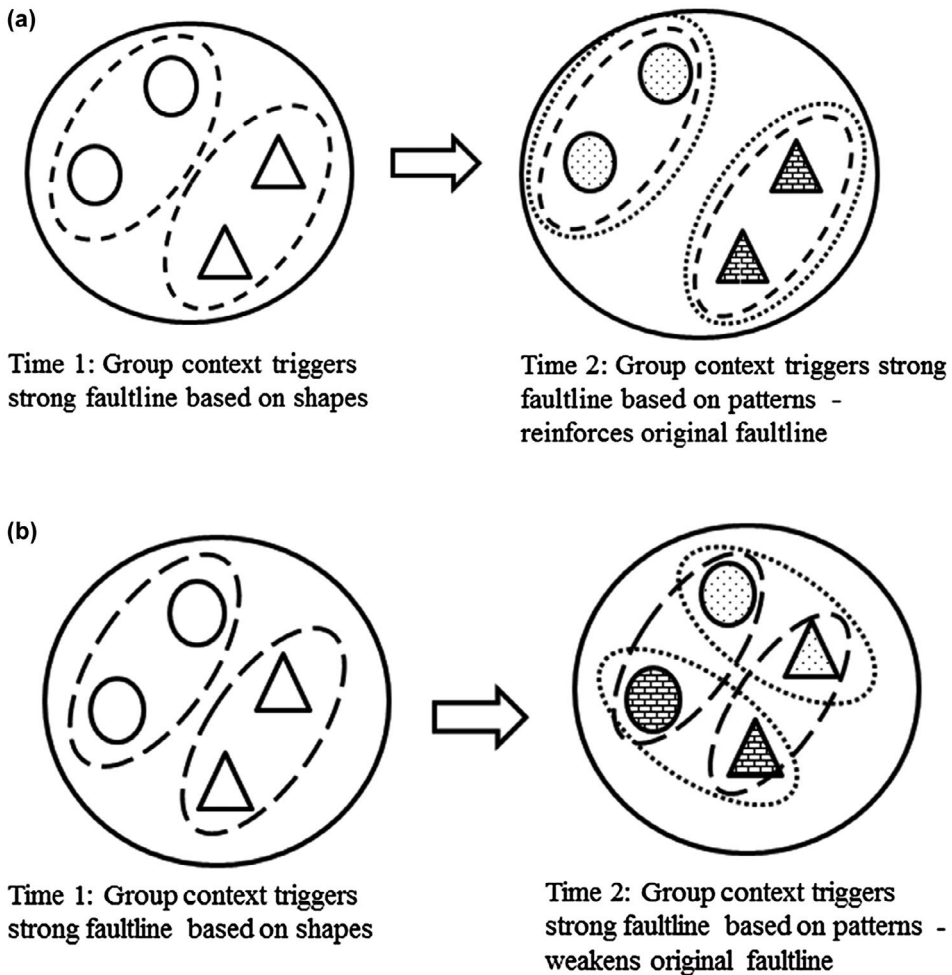


Figure 1. (a) High temporal type alignment increases subgroup entrenchment, (b) Low temporal type alignment decreases subgroup entrenchment

Note: Shapes represent identity-based attributes and patterns represent knowledge-based attributes.

and may be activated by different contextual elements at different times (Carton and Cummings, 2012; Harrison et al., 1998). Still, we expect that their alignment over time will result in more subgroup entrenchment.

Next, we explore the impact of low temporal type alignment (i.e., non-aligned faultlines) over time. Low temporal type alignment occurs when triggered faultline types over time imply different subgroup compositions (see Figure 1b). For example, a group experiences low temporal type alignment if a triggered identity-based faultline is followed by a triggered knowledge-based faultline that has a completely different subgroup configuration. We argue that triggered faultlines that are not aligned over time disrupt the emergence of entrenched subgroups by decreasing or diluting the psychological divide between any set of subgroups. This is primarily because non-aligned faultlines may trigger de-categorization and/or recategorization processes, through which members change

their categorizations of others as they discover new information about them (Gaertner and Dovidio, 2000).

De-categorization happens when an individual's categorizations of self and others into clearly defined subgroups weaken (Rico et al., 2012). Cross-cutting, for example, involves increasing perceptions of common attributes between subgroups (e.g., finding a salient similar attribute between individuals in differing subgroups; Rico et al., 2012). Recategorization is a process whereby individuals categorize themselves and others into a new (or superordinate) category (Gaertner et al., 1999; Zhu et al., 2014). Superordinate categorization can happen when a common group-level goal is created, making subgroup categorizations less salient as group members become oriented toward a common goal (Rico et al., 2012; Sherif, 1958). The metacontrast principle (Oakes, 1987; Oakes et al., 1994) supports this by suggesting that subgroups will be perceived until the inter-group differences are less than the intrasubgroup differences. When enough similarities between groups are discovered, subgroups are replaced with a superordinate entity. In sum, the processes of de-categorization or recategorization make previous subgroup categorization less accessible, reducing inter-subgroup bias and perceived differences between subgroups (Rico et al., 2012).

When temporal type alignment is low, non-aligned faultlines prevent subgroups from becoming more entrenched. Over time, with the discovery of more similarity between group members than differences, group members form a robust resistance to identifying only with a subset of individuals in the overall group. Thus, low temporal type alignment results in numerous categorizations as members collect many potential subgroup identifications or an overall group identification over time. In sum, if individuals decategorize or recategorize themselves and others into different subgroups over time, subgroup entrenchment weakens.

Proposition 6: Temporal type alignment of triggered faultlines positively influences subgroup entrenchment.

Triggered Faultline Sequencing

We have argued separately how triggered faultline duration and temporal type alignment impacts subgroup entrenchment. However, it is important to consider these two features together, as temporal theory shows that different patterns of events over time can have important implications (Pentland, 1999). Sequencing, or the pattern of events, is important because it describes how initial experiences may become more pronounced over time or may cause future fluctuations (Petersen and Koput, 1992). We introduce the concept of triggered faultline sequencing, defined as the distinct pattern of triggered faultlines and their characteristics (e.g., strength, type, duration, and alignment) and describe its impact on subgroup entrenchment.

Although our definition implies many possible varieties of sequencing, we focus on how triggered faultline sequencing matters regarding the order in which strong or weak faultlines are triggered. Consider a group in which a strong faultline is triggered first, and is followed by the triggering of a weak faultline. Group members begin their experience by forming close ties with in-subgroup members, and unify in opposition to out-subgroup

members. They develop corresponding beliefs and attitudes. Research consistently shows that once formed, beliefs and attitudes persist (Ballinger and Rockmann, 2010; Lord et al., 1979; Tetlock, 1983; Tversky and Kahneman, 1974). Individuals seek confirming evidence and discount evidence that contradicts their original beliefs (Nickerson, 1998). Thus, the entrenched subgroup inhibits the learning of information that might promote de-categorization. Consistent with this logic, Brown and Bernieri (2017) found that group members substantially revised their initial impressions of fellow group members after a five-minute conversation with other members, but made only small adjustments afterward. Consequently, when the earliest triggered faultline is strong, the resulting subgroup entrenchment will be resistant to change.

On the other hand, if a weak faultline is triggered before a strong faultline, the overall group may resist future subgrouping. In this case, their subgroups will be weakly entrenched, and the historical precedence of working together (e.g., an anchoring effect; Ballinger and Rockmann, 2010) and a sense of belonging to the group as a whole instead of a subgroup will be deeply rooted in the group's culture. Members may have, for example, learned information about their peers that confirmation bias might otherwise prevent them from learning later. The group will be predisposed to discount and resist circumstances that promote subgroup division, facilitating a relatively slow pace of subgroup entrenchment.

Proposition 7: Triggered faultline sequencing influences subgroup entrenchment, such that a) weak triggered faultlines that follow strong triggered faultlines will have a weak negative effect on subgroup entrenchment, and b) strong triggered faultlines that follow weak triggered faultlines will have a weak positive effect on subgroup entrenchment.

Illustrating Faultlines and Subgroup Entrenchment over Time

From the moment a group is formed, subgroup entrenchment embarks on a trajectory – waxing and waning over time depending on the forces of sequentially-triggered multiple faultlines. Representing the slope of group's entrenchment over time, it is important to consider a trajectory for each group, and to not assume that all groups will share the same trajectory (Roe et al., 2012). In the previous sections, we provided several building blocks to examine faultlines over time in groups (i.e., triggered faultlines, triggered faultline strength, triggered faultline duration, temporal type alignment, triggered faultline sequencing, subgroup entrenchment), and in this section, we provide examples of how we might apply our theory to two groups resulting in different trajectories of subgroup entrenchment. In doing so, we shed light on why groups' experiences of faultlines accrue differently to influence their subgroup interactions, and help to explain why triggered faultlines result in different trajectories of subgroup entrenchment.

Illustration 1: Mitigated Subgroup Entrenchment over Time

In our first illustration, we look at how different types of triggered faultlines over time can engender a trajectory of weak subgroup entrenchment. In this example, we focus on a newly-formed face-to-face workgroup that passes through three different contexts that trigger different types of faultlines: group formation (beginning to work together, a context

which lasts a long time), strategic planning (preparing for group work, a context completed rather quickly), and task execution (conducting their respective tasks in accordance with the strategic plan, which again lasts for a long duration). For an overview, please see Figure 2.

When a traditional (i.e., face-to-face) group forms, interpersonal socialization processes drive members to categorize others based on visible surface-level identity attributes such as age and race (Harrison et al., 1998; Swann et al., 2003). Because our illustrative group has few visible surface-level differences, this context triggers a weak identity-based faultline; members perceive little subgroup division. As the group formation context lasts for a long period of time, there is little in the way of subgroup division, and no subgroups become entrenched. The group has interacted mostly as an overall group rather than as members of subgroups. At this point, there is a very low level of subgroup entrenchment.

The group then engages in a relatively short burst of strategic planning activities, a context which triggers a strong knowledge-based potential faultline (e.g., based on ideas, roles, and experience). Noting clearly distinguished knowledge-based subgroups, members quickly coalesce with those who share their task-related ideas and expertise (reacting to the strong triggered faultline). This makes members aware of the clear subgroups that exist and given the triggered faultline strength, subgroup entrenchment takes seed quickly. Importantly, though, the group's history of weak subgroup entrenchment (low accrued subgroup entrenchment) and group-level interactions have established an

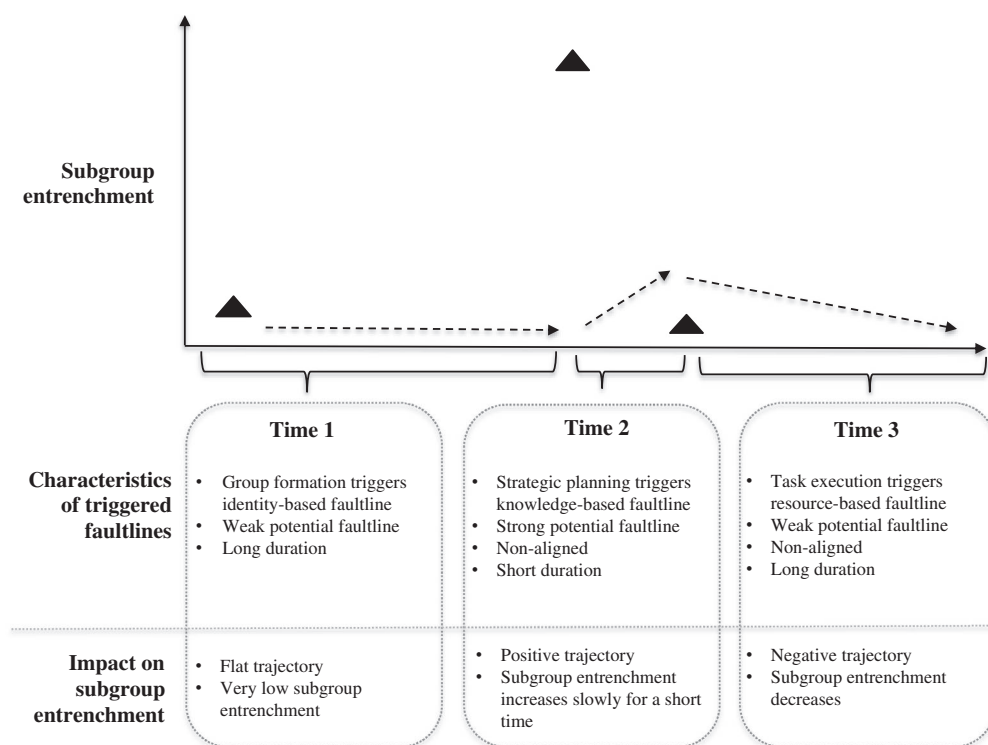


Figure 2. Illustration 1: Mitigated subgroup entrenchment over time

Note: Triangle shapes indicate the influence of a triggered faultline – shapes higher on the y-axis represent a stronger triggered faultline. Dashed lines reflect the duration and slope of the subgroup entrenchment.

anchor that influences the group's interactions in this second context. Members now perceive and work in what they experience as divided subgroups, but their history enables this interaction during the second phase of group work to be relatively effective. Given the short duration of this second context, group members do not become highly entrenched in subgroups; subgroup entrenchment increases but only for a short time.

As this group moves into a long-lasting task-execution episode (e.g., Marks et al., 2001), members focus on implementing the strategic plan they developed. Here, behaviours and actions regarding task completion trigger a weak potential resource-based faultline around access to resources in the organization and members' personal networks. Furthermore, this newly triggered resource-based faultline is *not aligned* with the strong knowledge-based faultline from the second context, which has produced subgroups which are recognizable but not highly entrenched. In this third context, the triggered faultline contains new weakly defined subgroup compositions that are inconsistent with prior subgroups. These weak non-aligned faultlines again decrease the entrenchment of the subgroups, and the group becomes more resistant to subgroup entrenchment over time.

Illustration 2: Strengthening Subgroup Entrenchment over Time

To demonstrate a group with a contrasting subgroup entrenchment trajectory, we introduce a new illustration. In this example, six members of a strategic project group (who have knowledge of each other from previous work assignments) have been asked to come together and plan a reorganization of their company. The group quickly focuses on its task, triggering a resource-based faultline with a long duration. Three group members come from the resource-rich finance function and three group members come from the lean-running manufacturing function, and these differences align with other resource-relevant attributes. This group reacts to the clear triggered resource-based faultline related to their functional area in the organization. These subgroups have a power differential that drives subgroup division, reaching a high level of subgroup entrenchment and setting the group on a positive subgroup entrenchment trajectory. For an overview, please see Figure 3.

Eventually, the group focuses on *how* they will complete the task at hand, and allocating responsibilities. This context triggers a knowledge-based faultline based on characteristics such as awareness of priorities and operational constraints. This faultline is a strong triggered faultline for a relatively short period, yet it is *not aligned* with the resource-based faultline that produced the entrenched subgroups, cross-cutting them instead. This lack of alignment encourages the group to recategorize themselves, and the trajectory of subgroup entrenchment turns slightly negative as the previously entrenched subgroups begin to unravel.

Finally, as this group prepares their report (expected to take a long period of time), concerns about pay equity are raised, triggering an identity-based faultline in the group that separates them on race and gender. The identity-based faultline is strong and completely aligned with the knowledge-based faultline. The triggered faultline reinforces the knowledge-based faultline, combining to further strengthen subgroup entrenchment. Over time, these subgroups may become so highly entrenched that it is almost impossible for the group to counteract them, having strong negative implications for future interactions. Through these two illustrations we describe how the subgroup entrenchment

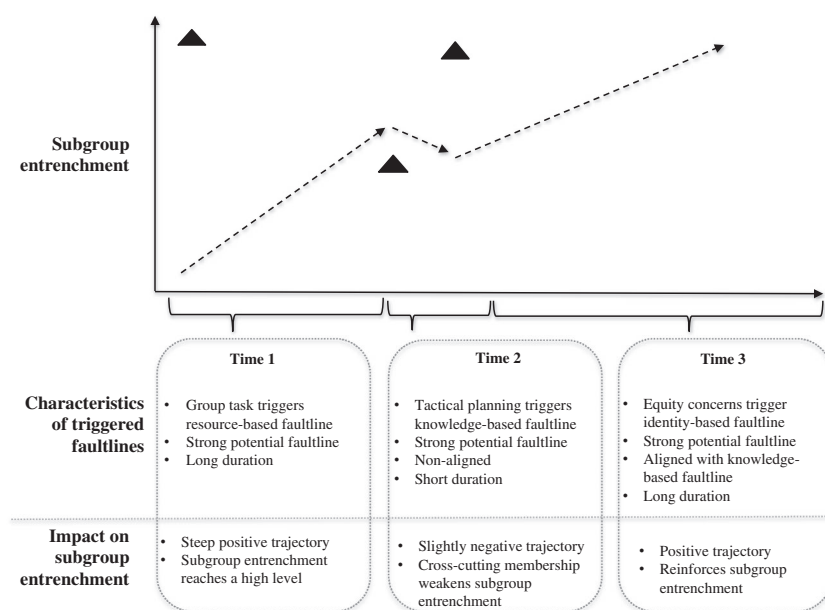


Figure 3. Illustration 2: Strengthening subgroup entrenchment over time

Note: Triangle shapes indicate the influence of a triggered faultline – shapes higher on the y-axis represent a stronger triggered faultline. Dashed lines reflect the duration and slope of the subgroup entrenchment.

trajectory resulting from triggered faultlines, their strength, their duration, their temporal type alignment, and their sequencing influence subgroup entrenchment in different ways over time.

DISCUSSION

To advance a temporal theory of faultlines, we first integrate three existing faultline features: strength, type, and the activation process and describe how they are related to subgroup entrenchment. Subgroup entrenchment is also influenced by temporal features such as triggered faultline duration, temporal type alignment, and triggered faultline sequencing. Exploring how these temporal faultline features result in an evolving subgroup entrenchment trajectory allows us to understand how faultlines can exert their influence on groups over time. We provide two illustrations to portray how our temporal theory of faultlines can be applied to organizational groups. In doing so, we provide several unique insights into the dynamic process of faultlines and their impact on subgroups which influence the effectiveness of groups. Below we describe our specific conceptual advancements, avenues for future research, and practical implications.

Implications for the Faultline and Group Literatures

Our temporal theory of faultlines addresses key oversights in our understanding of how time influences faultlines in groups, and also responds to calls for group researchers to incorporate more longitudinally-oriented work (e.g., Ancona et al., 2001a, 2001b; Arrow et al., 2004; Leenders et al., 2016). We offer novel insights into how triggered faultlines'

strength, duration, type alignment, and sequencing can differ over time, and together accrue through subgroup entrenchment. That is, the degree to which fixed and impermeable subgroups come to exist in a group directs both current and future interactions. This new way of thinking about temporal group dynamics allows us to make several contributions.

First, we consolidate previous research and build our understanding of triggered faultline strength by integrating knowledge about the features and functions of faultlines to develop the new concept of subgroup entrenchment. The idea of subgroup entrenchment is valuable both for researchers studying faultlines over time and those studying the impact of faultlines at a point in time. Importantly, our theorizing moves us beyond the dichotomy of potential/activated faultlines that has dominated faultline research, and instead emphasizes faultline activation as a process leading to subgroup entrenchment. Equating triggered faultlines with subgroups has hindered our ability to understand and study the activation process. Specifically, our theory suggests that although faultlines might be triggered and strong, they do not necessarily result in activated and psychologically-divided subgroups; rather, this is contingent on a group's shared history. Further, subgroup entrenchment can change over time as members classify themselves and others in different ways as a reaction to various group tasks or contexts.

Shifting the focus to subgroups allows us to elaborate on the idea that multiple faultline types might be triggered at different times with different effects. These faultlines can reinforce or counteract each other to influence subgroup behaviours during a given context. Building on a recent attempt to consider multiple types of faultlines together (e.g., Ren et al., 2015), we examine the relative strengths and complex relationships among multiple faultlines. Thus, we contribute to the faultline literature by providing insights about how multiple types of faultlines co-exist and can be triggered sequentially and for short or long durations. This approach reveals that one strong triggered faultline does not necessarily negate the effects of other faultlines, rather its effects are cumulative and dependent on history, captured by accrued subgroup entrenchment. The idea that various types of faultlines co-exist such that they are retained in the group memory has implications for groups; groups and their leaders must be continuously vigilant about contexts or tasks that might renew the effect of a previously triggered faultline.

Second, we use these insights to build a theoretical framework that advances a temporal understanding of faultlines. We argue that the important known features of faultlines (e.g., faultline strength, type, and activation; Lau and Murnighan, 1998; Thatcher and Patel, 2012) need to be considered together with temporal features of faultlines. The new temporal features of faultlines and their relationships in our theory advance understanding about when, why, and how triggered faultlines can impact a group. The vast majority of current studies focus on potential faultlines based on a set of attributes, and treat them as static, time invariant constructs (e.g., Bezrukova et al., 2016; Lau and Murnighan, 2005; Ou et al., 2017). However, the faultline activation process can occur when external forces and circumstances make particular categorizations salient (Jehn and Bezrukova, 2010). Our theory considers the activation process of faultlines to explain how subgroup divisions strengthen over time, becoming less susceptible to the influence of new circumstances. This perspective also explains how the accumulation of social environments operates with more complexity than captured by prior views of faultlines. For instance, our

theory offers guidance about how researchers can recognize different types of faultlines in the same group, conceptualize their relationship with one another, and theorize about their joint impact dependent on the temporal unfolding of a group's experience. Such an approach contrasts with current views of faultlines that choose a set of attributes to represent a monolithic potential faultline that is either activated or not.

Third, our temporal framework helps to explain why the effects of potential faultlines on group processes and outcomes are not generalizable to all groups at any given point in time. We provide concrete examples of how our temporal theorizing augments our understanding of faultlines and their effects. Acknowledging the temporal element is critical because history can provide an anchor for group members, establishing a group atmosphere that may be difficult to change. Although reviews of the faultline literature show a generally negative relationship between faultline strength and group outcomes (e.g., Liu et al., 2019; Meyer et al., 2014; Thatcher and Patel, 2012), some empirical studies have contrary findings. For example, in studies investigating the relationship between faultline strength and group outcomes – both positive (Ellis et al., 2013) and inverted U-shaped relationships (Chen et al., 2017) have been found. The collective set of results might be partly reconciled by considering variation in the way faultlines are measured; however, empirical studies often lack important information about groups' history suggesting that some of the variation may also be due to accrued subgroup entrenchment. Our theory shows that if the trajectory of subgroup entrenchment is at a low level, a new strong, triggered faultline may not increase subgroup division. On the other hand, a group with highly entrenched subgroups may be resistant to changes even when new, weak faultlines or strong non-aligned faultlines are triggered. A temporal approach may help to unpack some of the inconsistent findings in the current literature. Still our theory is subject to some boundary conditions, and may apply differently to groups with different structures (e.g., virtual groups) or values (e.g., more collectivist cultures).

These insights augment Lau and Murnighan's (1998) position on the importance of the alignment of diversity attributes in influencing group functioning. We describe how it is not just the alignment of particular attributes at one point in time that affects subgroup division and subsequent subgroup membership. We suggest that multiple types of faultlines do not combine to form a single 'mega-faultline'. Considering the alignment of different types of faultlines over time extends faultline theory by showing the accruing effects of multiple alignments or the mitigating effects of non-alignment. Our logic highlights that the negative effects of triggered faultline strength in one group context does not mean that the group is doomed. For example, strong, triggered identity-based faultlines during group formation can be an anchoring event in groups, but they can be overcome by weak, misaligned, or longer-lived triggered faultlines that allow members to engage in recategorization and identify with several other group members (cross-cutting). Eventually, such a group could engage in de-categorization, resulting in decreased subgroup entrenchment at a later time.

Avenues for Future Research

These advances allow researchers to ask new research questions about faultlines. For instance, is there a typical sequence for faultline triggering (e.g., identity, knowledge, and

resource), and does it differ among types of groups or tasks? Do some types of triggered faultlines shift subgroup entrenchment faster or more powerfully? Are subgroups based on some attributes inherently more entrenched? Will groups tend to agree on the number and membership of subgroups, or will they only agree when entrenchment is strong? Aside from sequences based on strength, might other sequences (e.g., based on type) have important implications for the development of subgroup entrenchment? Another important question that may direct a wealth of future research is the extent to which different types of interventions can reduce (or increase) subgroup entrenchment, and when (based on which triggered faultline) might subgroup entrenchment be highly desirable versus highly detrimental?

Some additional suggestions and avenues for future research warrant more detailed discussion. First, advances in the study of potential faultlines can be combined with our theorizing to identify and leverage connections. For example, potential faultlines have been observed to differ not only on their strength (i.e. the degree to which attributes align to create distinct subgroups), but also on their distance (i.e., the degree to which these subgroups have different values of underlying attributes; Bezrukova et al., 2012; Meyer and Glenz, 2013; Zanutto et al., 2011). The two characteristics of potential faultlines might exert different effects on the composition of subgroups and their level of entrenchment.

Second, our theoretical extensions were developed under two assumptions that might be relaxed in future research. First, we assume that groups have stable membership. Adding new group members will change faultline dynamics, as members deal with the uncertainty of the new additions. Adding new group members changes the established composition of the group, and could provoke a group to re-evaluate the current position of the entrenched subgroup. It would be impossible for this group to start from scratch because the accrued and existing subgroup entrenchment cannot be discarded or discounted. The second assumption is that groups are in substantial agreement about the membership and intensity of subgroups. As with other constructs, within-group variance or asymmetry might have distinct and consequential meaning for group process and outcomes (see Jehn et al., 2010; Luo, 2005). Additional complexities might also be examined, including the possibility of curvilinear effects, or feedback loops in which outcomes of subgroup entrenchment impact future faultlines and subgroup dynamics (e.g., performance).

Third, our theory has been crafted with the aim of introducing a temporal lens to the faultline literature. This necessitated focusing our theory development on the new focal construct of subgroup entrenchment and its temporal trajectory (as determined by triggered faultline duration, temporal type alignment, and triggered faultline sequencing). Future research might build on this work to broaden the conceptual model and explore the important outcomes of different levels of subgroup entrenchment such as group processes (e.g., inter-subgroup communication or conflict) and performance-related outcomes (e.g., effectiveness). Future work may also expand the scope of our model to consider other potential influences of the triggered faultlines-subgroup entrenchment relationship or other important antecedents of subgroup entrenchment.

Fourth, our theorizing assumed that one particular type of faultline is triggered at a time. Future research might expand on this to explore the effects of a faultline that is

triggered over multiple time periods. For example, on occasion, a potential faultline may be triggered multiple times by the same or different triggers. As repeated behaviours become habitual and automatic (Aarts et al., 1998; Ajzen, 2002), a short, but repeated, triggered faultline may have similar effects to a triggered faultline that lasts for a long duration. However, this relationship may depend on whether a faultline is triggered continuously or interrupted by a period with a different triggered faultline. In such cases, we expect the effect of a short, repeated triggered faultline on subgroup entrenchment will be weaker than one that lasts for a long period. To that end, future research could explore whether a series of short, repeated triggered faultlines has similar or different effects on subgroup entrenchment when compared to a triggered faultline that exists for a long duration. Another possibility is that different situations, tasks, or environmental triggers could make certain underlying attributes more salient than other triggers would. That is, the ‘strength’ of a particular trigger (e.g., how novel, disruptive, and critical it is; Morgeson et al., 2015) may have influence the experience of subgroups. Though it is beyond the scope of our work, this would also imply that subgroup entrenchment might result from the attributes associated with the trigger as well as triggered faultline strength.

Finally, an important step is to test our theory empirically, including developing empirically valid and testable scales for our new constructs, understanding when and how frequently groups should be measured, and exploring factors that may influence the relationship between subgroup entrenchment, group processes, and group outcomes. This can be done by both observing and surveying workgroups and following them over different contexts. As the group progresses and evolves through different contexts, data on group context, triggered faultline types (e.g., attributes that are important in a particular context), triggered faultline duration, temporal type alignment, triggered faultline sequencing, and subgroup entrenchment could be captured in each context. Furthermore, subgroup entrenchment could be measured by examining perceived subgroup composition over time. Using this data, researchers can validate our model linking the combination of faultline features to subgroup entrenchment over different contexts and time frames.

Practical Implications

We have suggested that the influence of triggered faultlines over time in a group can have positive or negative implications for subgroup entrenchment, which can impact a wealth of outcomes. For example, subgroup entrenchment may make collaboration difficult as subgroup members may have a difficult time taking the perspective of the ‘outgroup’. This can reinforce silo mentality and silo behaviour between functions or groups in an organization. Intergroup conflict may increase, influencing resource sharing, and subsequently influencing group and intergroup effectiveness. Consequently, we believe it is important that leaders and group members learn to understand how their group context may drive group members to align – or not align – with subgroups. Armed with this knowledge, managers can predict and plan for when difficulties might arise that hamper group effectiveness. For example, if group members are aligned in the same subgroups over time resulting in an increased subgroup entrenchment trajectory, it may help to introduce a task or context that mitigates or reverses the trajectory. Another approach may be to introduce a new group member that disrupts the group’s historical perspective and

subsequent subgroup entrenchment trajectory. By encouraging or mitigating subgroup entrenchment through different contexts, leaders can create group interactions that result in low levels of subgroup entrenchment, and hopefully, high levels of overall group identification.

Building on this, some studies suggest there is an appropriate leadership style during different times in a group's lifecycle. For example, directive leaders are more effective than empowering leaders at initial phases, and empowering leaders are more influential during later phases (Lorinkova et al., 2013). We speculate that leadership can influence the relationship between triggered faultlines and subgroup entrenchment depending on the type and timing of the leadership intervention. For instance, a directive leader may counteract the effect of a group's strong triggered identity-based faultline when it first forms, by providing clear instructions, helping to move the group quickly to a new context (reducing the duration), or triggering new cross-cutting faultlines. Empowering or more laissez-faire leaders may exacerbate the negative effects, failing to provide clear guidelines and reduce uncertainty, and potentially accelerating the subgroup entrenchment trajectory. Leaders need to be aware of how their leadership style might exacerbate or alleviate the effect of a group's subgroup entrenchment trajectory that eventually influences group outcomes.

CONCLUSION

To unpack the complex relationship between faultlines and subgroup division over time, we introduce several faultline constructs that allow for temporal theorizing: subgroup entrenchment, triggered faultline duration, temporal type alignment, and triggered faultline sequencing. Additionally, by developing a temporal theory of faultlines, we shed light on how faultline features collectively and dynamically influence subgroup entrenchment, and describe how our theory explains some of the mixed findings in the faultline literature. Finally, we offer insights into how practitioners might craft interventions to capitalize on the constructive – and mitigate the destructive – potential of faultlines in groups.

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