Chapter 2
Employee Reactions to Organizational Change: The Main Models and Measures

Elaine Rabelo Neiva, Elisa Amorim-Ribeiro, and Magno Oliveira Macambira

2.1 Introduction

Organizational change, defined as actions that impact an organization's members or outcomes, is conceived as a continuous process inherent to organizational routines (Neiva & Paz, 2012). Cognitive, affective, and behavioral factors are potential components of individuals' responses to organizational changes and may have a positive or negative valence or yet be ambivalent (Piderit, 2000). In general, organizational change elicits a range of emotions and responses ranging from optimism to fear, possibly including anxiety, resistance, enthusiasm, inability, motivation, or pessimism (Bordia et al., 2011; Bortolotti, 2010).

In the last two decades, research on organizational behavior has focused on organizational change (OC). Such an interest unfolded in a larger number of constructs studied in the field, measurement instruments, and, consequently, demands new models to explain OC. Thus, studies addressing OC face the challenge to review the constructs considered to be reactions to change, assess the operationalization and description of the mechanisms involved, promote a debate regarding the relevance of measures of attitudes and/or behavior, and balance emphases on analyses at the individual level compared to the relational, organizational, and macro-social level.

A review addressing papers published in 67 years (1940 to 2007; Oreg et al., 2011) proposed a model to understand the phenomenon of organizational change (OC), including elements such as (a) individuals' reactions and/or responses to

E. R. Neiva (✉)
University of Brasília, Brasília, DF, Brazil

E. Amorim-Ribeiro
Salgado de Oliveira University, Niterói, RJ, Brazil

M. O. Macambira
State University of Feira de Santana, Feira de Santana, BA, Brazil

change, (b) pre-change antecedents or the change itself, and (c) consequences for workers. The model includes constructs directly focused on organizational change and others comprising the entire spectrum of constructs in the field of organizations and labor (e.g., job satisfaction).

Analysis of the state-of-the-art literature in the field of OC, considering Oreg et al. (2011), shows an emphasis on resistance to change and understanding these processes from an attitudinal perspective. An important set of phenomena often unrelated to organizational change (e.g., job satisfaction and organizational commitment) is considered individual responses to organizational change processes. Hence, in the context of reactions to organizational change, we need to review a myriad of constructs considered reactions but not limited to organizational change processes.

An assessment of the literature also indicates the emergence of measurement approaches that advance from the individual to the relational and group levels, with an emphasis on understanding the role of collective behavior in OC processes or organizational readiness for change (Rafferty et al., 2013; Vakola, 2013; Weiner et al., 2020). There are also advancements in understanding the role of management in responses to OC. Coupled with these are behavioral measures that present relevant results and support interventions in change processes focusing on worker well-being (Lines, 2005; Nery et al., 2020).

In order to improve understanding regarding the issues surrounding the current context, its obstacles, and advances, this chapter covers OC studies, including the analysis of behaviors toward change and constructs traditionally studied, resistance to change, change-supportive behavior, instruments used to measure attitudinal and/or behavioral constructs, and considerations and conclusions regarding measures and constructs.

2.2 Attitudinal Constructs Traditionally Addressed in Organizational Change Processes and Respective Measures

Whenever individuals are told about an organizational change, they question how such a change will impact their jobs and how likely it is to succeed (Vakola, 2016). The literature shows that some concepts are important indicators of responses to organizational change (Bouckenooghe, 2010; Choi, 2011; Neiva et al., 2005), such as openness to change (Wanberg & Banas, 2000), commitment to change (Herold et al., 2007, 2008; Herscovitch & Meyer, 2002; Meyer et al., 2007), cynicism toward change (DeCelles et al., 2013; Reichers et al., 1997; Wanous et al., 2000), readiness to change (Cunningham et al., 2002; Holt et al., 2007; Rafferty et al., 2013; Weiner et al., 2020), and resistance to organizational change (Oreg et al., 2008).

A common factor among attitudes toward change, i.e., commitment, cynicism, readiness to change (Cunningham et al., 2002; Holt et al., 2007; Rafferty et al.,

2013; Weiner et al., 2020), and resistance to organizational change (Oreg et al., 2008), is that these present a primarily individual attitudinal nature. An individual's attitudes are based on his/her assessment of a subset of characteristics of an attitudinal object (Lines, 2005). Attitudes involve cognitive, affective, and behavioral aspects and can be difficult to change because they are built and consolidated throughout life (Ajzen, 1991; Eagly & Chaiken, 1993; Fishbein & Ajzen, 1974). The cognitive component is composed of information regarding an attitude object based on what this individual believes to be true. The affective component consists of an individual's feelings regarding an object of assessment and, in general, is expressed as liking or disliking that attitude object. Finally, the behavioral component consists of how a person intends to behave toward an attitude object (Lines, 2005). Henceforward, this chapter will present an analysis of the primary attitudinal constructs concerning reactions to organizational change.

The use of organizational and worker performance indicators predominated for a long time as objective criteria to assess the implementation and consolidation of organizational change processes (Neiva & Paz, 2012). However, how individuals respond to change has attracted the interest of researchers, given the impact of these responses on change processes (Bordia et al., 2011; Oreg et al., 2011; Vakola et al., 2013; Vakola, 2016). A myriad of scales and measures are used to assess individuals' responses to organizational change, and the main ones reported in the literature are presented and discussed in this chapter. The measures are classified according to the level of analysis and dimensions of the constructs addressed. Table 2.2 presents a summary of these measures.

2.3   Attitudes Toward Change

There is much interest in attitudes toward change (Bouckenooghe, 2010), concerning the process in which attitudes are formed (Lau & Woodman, 1995), how attitudes are investigated (Lines, 2005; Vakola et al., 2004), and the factors that impact attitudes (Van den Heuvel et al., 2017). According to Vakola and Nikolaou (2005: 162), "attitudes toward change in general consist of a person's cognitions about change, affective reactions to change, and a behavioral tendency toward change." Therefore, change can be received with excitement and happiness or anger and fear, while employee responses may range from supportive, positive intentions to opposing, negative intentions. Within organizations, individuals may have a general attitude toward change while simultaneously having different attitudes toward different change initiatives (Choi, 2011). Acceptance attitudes portray an assessment of the beliefs and predisposition of organizational members to express positive behaviors toward change processes. Fearful attitudes portray the organizational members' fear of losing power, benefits, or reflect uncertainty regarding changes. Skeptical attitudes, in turn, comprise beliefs and predisposition to negative behavior toward changes, with an emphasis on disbelief and non-collaborative attitudes toward change programs (Neiva et al., 2005). An individual's attitudes toward

organizational change are based on a positive or negative assessment regarding an organization's initiatives to change (Lines, 2005) and are critical to the success of organizational change because attitudes predispose individuals to act in a certain way (Lines, 2005; Vakola, 2016; Vakola et al., 2004).

Attitudes toward change may include assessments of any episode of change (general attitudes, any change) or directed to a specific change process (specific attitudes such as changes in the board of top managers, for instance). Specific attitudes predict behaviors toward change processes (Vakola et al., 2013) and explain the cognitive schemes mediating attitudes toward generic changes and attitudes toward specific changes (Lau & Woodman, 1995).

The most important implication of studies addressing reactions to organizational change based on attitudes toward change is that attitudes involve positive and negative aspects, while a significant portion of the literature focuses on negative responses to change – i.e., resistance (Lines, 2005). When employees have a strong and positive attitude toward change, they are more likely to support and facilitate changes (Lines, 2005). On the other hand, individuals with negative attitudes toward change are likely to resist and even sabotage attempts of change (Lines, 2005).

The oldest instrument measuring attitudes toward organizational change was proposed by Dunham et al. (1989). It is an 18-item instrument consisting of three dimensions: cognitive, affective, and behavioral intent, each containing six items. Examples of items included in the cognitive subscale are: "I do not like changes" and "I usually resist new ideas." Examples of the items included in the affective dimension are: "Organizations usually benefit from change" and "Most of my co-workers benefit from changes." Examples of the items included in the behavioral dimension are: "I am looking forward to changes at work"; "I am inclined to try new ideas." The items are rated on a seven-point scale ranging from 1 (completely disagree) to 7 (completely agree). The subscales are scored separately. The internal consistency (Cronbach's alpha) of the cognitive, affective, and behavioral subscales was 0.92, 0.89, and 0.95, respectively. Other researchers used this instrument and obtained satisfactory validity indexes (see Elias, 2009; Yousef, 2000, 2017).

The Attitudes Toward Change Questionnaire (ACQ) was developed by Vakola et al. (2004). This 29-item instrument (14 positive and 15 negative items) assesses the extent to which the participants agree with each item, rated on a 5-point scale that ranges from (1) completely disagree to (5) completely agree. A typical item in the positive attitude scale is "I am looking forward to changes in my work environment," and an example of a negative item is: "when a new organizational change program starts, I emphatically show my disagreement." The negatively stated items are reversed so that high scores indicate positive attitudes toward organizational changes (Vakola & Nikolaou, 2005). The Change Recipients' Reactions (CRRE) Scale is a self-reported scale similar to the one previously mentioned. Tsaousis and Vakola (2018) designed this 21-item scale to address three attitudinal components (cognitive, affective, and behavioral) rated on a 5-point Likert scale (1 − very unfavorable to 5 − very favorable). Examples of items include "This change is unpleasant for me," and "I feel uncomfortable with the change they are trying to implement."

Another instrument, *Reaction to Specific Changes at Work Scale* (Giauque, 2015), was proposed to measure employees' perceptions of organizational changes and how these impact the daily life of the population under study. The items were designed to measure the extent to which the respondents consider organizational transformations to be favorable or unfavorable in the various aspects of their jobs. In other words, this measure captures the interviewees' favorable or unfavorable perceptions regarding the impact of recent organizational changes on their working conditions. Therefore, this instrument does not measure positive attitudes toward changes in general but the reactions of individuals toward specific organizational changes. Individual reactions to various changes contribute to feelings and/or a general assessment of changes. The items in this specific measure are rated on a five-point Likert scale ranging from (1) very favorable to (5) very unfavorable. The scores obtained in the six items are summed to result in a six-item general measure of attitudes toward change (reliability of the general scale was alpha = 0.91).

The scale *Attitudes Towards Organizational Change* (Neiva et al., 2005) presents good validity indexes and comprises three factors – skepticism, fears, and acceptance, with the following reliability indexes, 0.90, 0.88, and 0.85, respectively. These factors represent the typical attitudes individuals present toward organizational changes. The scale was submitted to parallel analysis and exploratory and confirmatory factor analyses; the latter was performed with the structural equation modeling technique, presenting satisfactory validity evidence. The items for this specific measure were established using a five-point Likert scale ranging from (1) completely disagree to (5) completely agree. Examples of items include "People are afraid because of the uncertainty generated by the new way of working," "This organization does not plan processes of change – they just happen," and "The changes bring gains for the organization." This scale was adopted in other Brazilian studies and presented consistent validity evidence (Machado & Neiva, 2017; Nery & Neiva, 2015; Franco et al., 2016).

Kin and Karrem (2017) developed the Teacher Attitudes Towards Change Scale (TATCS) to measure the general attitudes of teachers toward changes. The scale's validity was assessed using exploratory factor analysis to identify underlying factors, while confirmatory factor analysis was used to test the measurement models, from which three factors emerged: (a) cognitive, (b) behavioral, and (c) affective reaction to change. Psychometric analyses provided evidence of convergent validity, discriminant validity, and construct reliability. A six-point Likert scale, ranging from (1) completely disagree to (6) completely agree, was used. Examples of items include "Most changes at my school are pleasing," "Change frustrates me," and "I often suggest changes for my school."

The literature shows that most of the measures of attitudes toward organizational change comprise three widely interconnected dimensions: (1) cognitive, assessing change-related beliefs; (2) affective, identifying associated feelings; and (3) behavioral, considering the extent to which individuals take measures to support or sabotage changes (Piderit, 2000). Positive and negative items are distributed in each of these dimensions (Elias, 2009; Giauque, 2015; Van den Heuvel et al., 2017; Policarpo et al., 2018; Vakola & Nikolaou, 2005; Vakola et al., 2004). Regarding

levels of analysis, the measures mentioned here present analyses at the individual level; however, the instruments that include, in addition to individual perceptions, organizations' items, co-workers, and work team offer the possibility to improve understanding regarding OC at the middle and macro levels.

2.4   Commitment to Change

Organizational changes are costly endeavors that often fail to produce the expected results. The literature proposes that affective commitment to change is vital, especially in turbulent contexts, characterized by multiple and continuous episodes of change that demand continuous support from employees (Herscovitch & Meyer, 2002; Meyer et al., 2007). Such bond is shaped by beliefs concerning the need and legitimacy of organizational change and its leaders (Morin et al., 2016). A significant discussion regarding the construct affective commitment with change refers to the specificity of commitment to organizational change and its differentiation in terms of measure and concept with the construct organizational commitment and its affective, normative, and calculative bases.

Organizational commitment refers to an individual's identification and involvement with a given organization. Organizational commitment is defined as (1) a strong belief and acceptance of the companies' values, (2) a willingness to use skills and effort in favor of the organization, and (3) an intense disposition to remain in the organization. The word commitment can be conceptualized as an employee attachment at various levels, such as the entire organization, an organizational subunit, supervisor, or even a change program (Herscovitch & Meyer, 2002). Commitment to change was defined as "a force (mindset) that binds an individual to a course of action of relevance to one or more targets" (Herscovitch & Meyer, 2002, p.475). Herscovitch and Meyer (2002) presented a three-component model of commitment to organizational change based on the general model of organizational commitment. They were also the first researchers to test this model of commitment to organizational change empirically. The components of commitment to change were described as (i) affective commitment, that is, commitment based on the realization of the inherent benefits of change; (ii) normative commitment that is based on a sense of obligation; and (iii) continuance commitment that is based on an attempt to avoid costs for not complying with the purposes of change. Finally, commitment to organizational change involves the individual being engaged with actions in the organizational change process. Organizational changes are costly endeavors that often fail to produce the expected results. The literature proposes that affective commitment to change is vital, especially in turbulent contexts, characterized by multiple and continuous episodes of change that demand continuous support from employees (Herscovitch & Meyer, 2002; Meyer et al., 2007). Such bond is shaped by beliefs concerning the need and legitimacy of organizational change and its leaders (Morin et al., 2016). A significant discussion regarding the construct affective commitment with change refers to the specificity of commitment to organizational change and its

differentiation in terms of measure and concept with the construct organizational commitment and its affective, normative, and calculative bases.

Jansen (2004) developed a measure of commitment to change that consists of eight items assessing agreement among the organization's members and willingness to work toward change goals. The measure showed high reliability (alpha = 0.93). Confirmatory factor analysis provided evidence that commitment with change was distinguishable and presented satisfactory goodness of fit ($c2 = 399.88$; df = 149; RMSEA =0.08; CFI = 0.92; NFI = 0.90).

Finally, Herscovitch and Meyer (2002) developed a measure of commitment to organizational change. It is a 22-item distributed into 3 commitment subscales: affective (i.e., wants to change), continuance (i.e., have to change), and normative (e.g., must change). The three subscales presented high reliability (alpha = 0.94, 0.94, and 0.96), and the confirmatory factor analysis confirmed three distinguishable subscales. The three subscales performed consistently with the one-item measure of commitment to change but were empirically distinguishable from a similar three-component scale of organizational commitment. Commitment to change predicted behavioral responses to change (e.g., conformity, cooperation, and defense). Additionally, the instrument differentiated groups of employees according to these different behavioral responses. The confirmatory factor analysis showed three factors with satisfactory goodness of fit ($c2 = 239.87$; df = 132; RMSEA = 0.07; CFI = 0.92).

The commitment to organizational change scale (Cinite & Duxbury) addresses the behavioral dimension, one dimension with six items rated on a seven-point Likert scale ((1) completely disagree to 7 (completely agree)). An example of item is "I introduce changes in my daily work to help the organization achieve its change goals." The exploratory and confirmatory factor analyses presented satisfactory goodness of fit, with a Cronbach's alpha = 0.80 and internal consistency = 0.87 (Fornell and Larcker criterion), indicating that the scale is reliable and all the items measure the same underlying dimension. This measure also showed high convergent and discriminant validity. AVE was equal to 0.57 and higher than the square of the correlation coefficient between the two subscales ($r2 = 0.462$). Chi-square was equal to 406.168 (degree of freedom [df] = 239 $p < 0.001$), residual mean square root (RMR) was 0.034 (the closer to 0 the better), and all the other indexes were above 0.9, showing goodness of fit: comparative goodness of fit index (CFI) = 0.977, adequacy index (GFI) = 0.944, adjusted adequacy index (AGFI) = 0.930, and normed fit index (NFI) = 0.947. The mean squared error of approximation (RMSEA) was equal to 0.035 and did not reach the common accepted upper limit of 0.05, with a 90% confidence interval between 0.029 and 0.040, $p = 1.000$.

2.5 Cynicism Toward Organizational Change

Resistance to organizational change may be expressed in the form of specific cynicism toward change, a phenomenon defined as employees' belief that the organization lacks the integrity to implement specific projects (DeCelles et al., 2013).

Cynicism toward organizational change is similar to the organizational cynicism construct. It is a multidimensional construct that may emerge as employees' defense strategy (Naus et al., 2007; Schmitz et al., 2018) to deal with an organizational change (Nguyen et al., 2018), for believing there will be losses for the organization itself (Fauzan, 2019). A change process is a disturbing event that impacts and influences the workers' belief systems (Mitchell & Lee, 2001). In this context, cynicism may function as a protective mechanism against manipulation and questioning the *status quo* to verify the validity of what is being proposed (Thundiyil et al., 2015). Additionally, it may reflect ideas concerning management problems and the implementation of change, so that a cynical attitude is an individual attempt to make sense of the changes proposed (Bergström et al., 2014).

Because this construct is derived from the organizational context, specific cynicism toward change is conceived as disbelief on the part of managers or collaborators regarding the stated or implicit reasons for specific organizational changes. Employee cynicism results from a lack of trust in the leaders' explicit or stated motives for decisions or actions in general. Dispositional cynicism refers to disbelief in people's explicit or stated motives in general regarding decisions or actions (Stanley et al., 2005). Cynicism about organizational change is often considered an essential factor that influences whether employees will accept changes. There are culturally adapted instruments to assess this phenomenon (e.g., Change-Specific Cynicism Scale, Grama & Todericiu, 2016); however, cynicism has been compared to some similar constructs – organizational trust, resistance to change, and organizational cynicism – with little conceptual or empirical differentiation. For this reason, researchers insist there is a need to improve and refine the conceptualization of cynicism (Thundiyil et al., 2015).

Cynicism toward organizational change can be defined as "a pessimistic viewpoint about change efforts being successful" (Wanous et al., 2000; p. 133). The authors proposed the Cynicism About Organizational Change – CAOC (Wanous et al., 2000) with two dimensions: pessimism regarding the potential success of changes and negative dispositional attributions about those responsible for successfully implementing changes. Examples of items include "Most of the programs that are supposed to solve problems around here will not do much good" and "Plans for future improvements will not amount to much." The dispositional include items such as "The people responsible for solving problems around here do not care enough about their jobs" and "The people responsible for making improvements do not know enough about what they are doing." Other studies submitted the scale to an expert panel, exploratory and confirmatory factor analysis (Wanous et al., 2000, 2004; Albrecht, 2008). Cynicism toward change was measured through eight items in which employees were asked to rate their level of agreement with change-related statements on a scale ranging from (1) strongly disagree to (7) strongly agree. Lower scores suggest less cynicism toward change. Wanous et al. (2004) reported that the Cronbach's alpha for the total scale ranged from $\alpha = 0.75$ to $\alpha = 0.82$ and from $\alpha = 0.72$ to $\alpha = 0.86$ across a range of occupational groupings.

2.6   Readiness for Organizational Change

Readiness is undoubtedly one of the most critical factors involved in initial support to change (Armenakis et al., 1993; Armenakis et al., 1999). For changes to occur in the direction top leadership desires, conflicts must be resolved so that the beliefs and cognitions of the organization's members are aligned to those of its leaders, which implies that a state of readiness must be established (Holt et al., 2007).

A review conducted by Bouckenooghe (2010) in 58 papers published between 1993 and 2007 addressing attitudes toward organizational change identified that out of the 21 studies included in the review, Armenakis et al. (1993) most frequently mentioned organizational readiness. The authors defined readiness to change as "beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully undertake those changes" (Bouckenooghe, 2010, p. 681).

In summary, the concepts of attitudes toward organizational change, commitment to change, readiness to change, cynicism toward change are relatively traditional constructs regarding employee responses to organizational change. Generally, they involve cognitive and affective assessments of change processes and often include behavioral aspects. Traditionally, these constructs are measured and delimited at the individual level, though there are attempts to address them at a collective level: collective attitudes toward organizational change (Nery et al., 2018; Vakola, 2016) and cynicism and readiness toward change as multilevel phenomena with origin at the individual level (DeCelles et al., 2013; Weiner et al., 2020). In terms of valence, the attitude toward organizational change includes positive and negative valence, commitment and readiness toward change have a positive valence, and cynicism has only a negative valence.

The literature is full of terms that characterize positive attitudes such as acceptance, readiness to change, openness, adaptation, coping with change, commitment to change, and negative attitudes such as resistance and cynicism (Bouckenooghe, 2010). This traditional view has been discussed using ambivalence in the context of organizational change (Vakola et al., 2020). Ambivalence, inherent to organizational life (Rothman et al., 2017), is defined as a contradictory attitude encompassing positive and negative reactions toward an object (Kaplan, 1972; Oreg & Sverdlik, 2011; van Harreveld et al., 2009). In this sense, leaders and employees need to balance demands daily such as competition and cooperation, excellence and cost reduction, organizational and personal agendas, stability and change, structural change and flexibility, and tradition and innovation (Gibson & Birkinshaw, 2004; Rothman et al., 2017).

Various studies recognize that the attitudes of recipients of change strongly influence the way employees adapt to change (Oreg et al., 2011; Van Dam et al., 2008). However, these studies failed to acknowledge that attitudes toward change are not clear-cut (Vakola, 2016; Vakola et al., 2020); instead, attitudes may be ambivalent, involving both positive and negative cognitions, emotional reactions, and simultaneously favorable and unfavorable assessments of change (Oreg et al., 2018; Piderit,

2000). Failing to consider the existence of conflicting views on the change in question can reduce the precision and validity of results and confuse workers in the process (Oreg & Sverdlik, 2011; Vakola et al., 2020).

The literature suggests that attitudes toward organizational change facilitate the implementation of changes (Nery & Neiva, 2015) and should be used to indicate how favorable organizational changes are. Some authors (Schwarz & Bouckenooghe, 2017) have recently focused on collective attitudes, proposing multilevel models for organizational change. Authors propose a more direct model for collective attitude toward change, identifying mechanisms in which collective attitudes change, as well as the circumstances and contingencies from which new collective attitudes emerge, which do not necessarily reflect individual attitudes (Schwarz & Bouckenooghe, 2017).

Assessing readiness before introducing changes is encouraged, and various instruments were designed with this purpose (Cunningham et al., 2002; Jones et al., 2005). Instruments are intended to measure readiness from a perspective of the change process: based on change content, change context, or the individual attributes of those participating in the change process (Holt et al., 2007). There are instruments such as scales or inventories addressing readiness toward change. The Survey Lay of the Land (Burke et al., 1996) captures readiness by assessing the general perceptions of an organization's members regarding the environment where change is taking place without considering a specific initiative. Another instrument, the University of Rhode Island Change Assessment Scale (McConnaughy et al., 1983), assesses readiness toward specific initiatives, though irrelevant from an organizational perspective, such as an individual effort to quit smoking or lose weight. Later, this instrument was adapted to be used in an organizational setting (Cunningham et al., 2002), though it still lacks validity evidence.

The Readiness for Organizational Change Scale was developed and assessed using a systematic framework (i.e., item development, questionnaire administration, item reduction, scale assessment, and replication). It was designed to measure readiness toward organizational change at an individual level. More than 900 members from public and private organizations participated in the study's different phases, and it was tested in different organizations. Data analysis (25 items) showed that readiness toward change is a multidimensional construct influenced by the employees' beliefs that (a) they are capable of implementing changes (i.e., specific change self-efficacy; (b) change is appropriate for the organization (i.e., adequacy); (c) the leaders are committed to change (i.e., management support); and (d) that change will benefit the organization's members (i.e., personal valence) (Holt et al., 2007). Thus far, this is the most successful instrument available to assess the construct readiness toward organizational change, and from it, other instruments emerged (Weiner et al., 2008; Weiner et al., 2020). This scale was based on the dimensions reported in the literature and was submitted to an expert panel and exploratory factor analysis. The items include *I think the organization will benefit from this change*; *It does not make much sense for us to initiate this change*; *There are legitimate reasons for us to make this change*; *This change will improve our organization's overall efficiency*; and *This change makes my job easier*. The 25-item instrument

captured four readiness dimensions: appropriateness, management support, change efficacy, and personal benefit. The confirmatory factor analysis performed with the initial sample and its replication supported the instrument's four-factor structure. The instrument also showed convergent, discriminant, concurrent, and predictive validity. Specifically, the readiness subscale showed (a) positive associations with measures of locus of control and general attitudes toward change, (b) negative association with rebelliousness and negative affect, (c) discriminant validity between groups at different levels of readiness, and (d) predictive validity with job satisfaction and affective commitment. In both the initial sample and replication, reliability estimates for three of the four readiness dimensions exceeded 0.70. In both samples, the personal valence dimension (i.e., perceived personal benefits) presented reliability alphas equal to 0.65 and 0.66, respectively. The instrument was designed to measure readiness at the individual level and, later, was submitted to confirmatory factor analysis (Vakola, 2014).

The literature has shown the relevance of using behavioral and affective responses such as resistance and supportive behaviors as criteria to infer the success of changes (Bordia et al., 2011). However, the construct most frequently investigated has been resistance toward organizational change (Piderit, 2000), which is addressed next.

2.7 Behavioral Responses to Organizational Change Processes and Measurement

Despite its relevance, few measures address behavioral responses to change (Bortolotti, 2010), and none of the existing measures address the two dimensions: supportive behavior and resistance. Organizational changes can incite emotions and reactions that range from optimism to fear, possibly including anxiety, resistance, excitement, inability, motivation, or pessimism (Bortolotti, 2010). In general, the phenomenon involves a range of positive and negative reactions, which can be placed on a continuum beginning at the individual level and resulting in a collective response, configuring group patterns (Nery & Neiva, 2015). The phenomenon of behavioral reactions toward change has been frequently analyzed at the individual level (Choi, 2011). However, this phenomenon may also be observed from a collective perspective and is characterized by behavioral patterns presented by a group of individuals (Bouckenooghe, 2010; Choi, 2011; George & Jones, 2001), often resulting from organizational inertia. In this sense, inertia would manifest or originate at the individual level and resistance at a group level (George & Jones, 2001).

Phenomena originating at the individual level can lead to attributes at the macro or middle level (emersion phenomenon, to emerge) based on different processes of composition or structuring attributes (Klein & Kozlowski, 2000). Over time, as people work under the influence of the same events, they start sharing perceptions regarding phenomena in their organizational environment. Even though interpretation is an individual cognitive process, it is socially constructed based on social

benchmarks (collective interpretations). Additionally, individuals may develop behavioral patterns associated with these interpretations, using social mechanisms, often called contagion (Wiltermuth & Heath, 2009).

Change-supportive behaviors and resistance to change emerge at the individual level but may become collective as behavioral patterns that most (perhaps all) organizational members manifest in response to events within the organization (George & Jones, 2001; Nery & Neiva, 2015). Despite emersion processes, one way to access a phenomenon is still through individual assessment (Hox, 2010).

2.8   Resistance to Organizational Change

The psychologist Kurt Lewin first used the expression "resistance to change" as a metaphor in physical sciences (Bortolotti, 2010). Since then, resistance is a prominent theme because it is a critical factor, listed as one of the main barriers to the success of organizational transformations (Neiva & Paz, 2012; Piderit, 2000). The reason is that resistance to change delays the implementation of changes, generates costs, and results in unexpected instability, unforeseen inefficiency, procrastination, and efforts to sabotage the change process (Franco et al., 2016).

The concept of resistance to change is rooted in Lewin's (1947) theory, unfreeze, change and refreeze organizational model of change, which states that there are driving forces that seek to cause or resist change. Studies addressing resistance to change generally describe it at an individual level through three dimensions: cognitive, affective, and behavioral (Erwin & Garman, 2010; Isabella, 1990). The cognitive dimension refers to what employees think about change, including their perception of being efficacious to occupy new positions (Giangreco & Peccei, 2005). The affective dimension is defined as the employees' emotional and psychological responses toward changes (Denhardt et al., 2009). The behavioral dimension refers to resistance in terms of actions, considering that the two first dimensions are frequently seen as the sources or causes of resistance. The behavioral dimension includes the actual manifestation of resistance as behaviors, acts, and observable events (Fiedler, 2010; Giangreco & Peccei, 2005; Lines et al., 2014). Some measures exclusively focus on behavioral resistance to change because this is the only dimension directly observable. Twelve specific types of resistant behavior (Table 2.1) were found based on the definitions provided in the literature (Bovey & Hede, 2001; Emiliani & Stec, 2004; Fiedler, 2010; Giangreco & Peccei, 2005; Mishra & Spreitzer, 1998; Van de Ven & Poole, 1995) (Table 2.2).

There is a profusion of approaches addressing resistance to change, from the conception of the phenomenon as a dispositional trait (Oreg, 2003; Oreg et al., 2008) up to approaches that consider the phenomenon to be a political movement in the relational context (Thomas & Hardy, 2011; Mumby, 2005). From a primarily collective and group perspective, negotiating the meaning is inevitably imbued with power-resistance relations. Traditionally, power and resistance have been treated separately, while the exercise of power is seen as domination, and resistance

Table 2.1 Types of resistant behaviors

Types of resistant behaviors	Definitions
Reluctant compliance	Doing the minimum required, lack of enthusiasm, caution, and doubt
Delaying	Expressing verbal agreement but not following through, obstruction, procrastination
Lack of transparency	Hiding or omitting useful information during implementation
Restricting communication	Avoiding or restricting the dissemination of change message
Arguing and open criticism	Expressing opposition verbally and/or finding fault with the implementation of change
Obstruction and subversion	Openly sabotaging, blocking, and undermining the implementation of change
Disseminating a negative word	Disseminating negative opinion and rumors, encouraging fear in resistance
Termination	Voluntarily or involuntarily withdrawing from a project or the organization
Reversion	Changing back to traditional practices during the implementation of change
Misguided application	Changing the implementation beyond the stated process, goals, and methods
Forcing change	Struggling for perfection at the expense of implementation efforts
External influence	Behavior in response to negative feedback from external sources

constitutes actions taken to challenge it (Hardy & Clegg, 1996). Authors of this approach also argue that there is a harmful dichotomy in the literature between a positive and a negative view of resistance (Thomas & Hardy, 2011).

Even though a scale was not designed, a typology of resistant behaviors was developed based on observations and interviews (Lines et al., 2014). This typology characterizes behaviors (Table 2.1) as delay in meeting deadlines, omitting information, obstruction, argumentation and open criticisms to change, etc. The study's significant contribution lies in the operational description of the behaviors that qualify resistance to change.

Most papers addressing resistance to change provide their own conceptual definitions (Bouckenooghe, 2010), which are different, though consider the intentional/behavioral component as an opposing force that impedes the successful implementation of change, supporting the *status quo* (Nery & Neiva, 2015). The literature also shows that resistance is the most frequent response to organizational change (Piderit, 2000; Bouckenooghe, 2010) and, for this reason, should be seen as an element that is inherent to individual and collective cognitive transformations that occur during change processes (George & Jones, 2001).

In 2003, Oreg proposed a scale to directly assess the dispositional component that contributes to individual resistance to change, called the Resistance to Change Scale (RTC). This scale is composed of 44 items rated on a 6-point Likert scale. The validation process indicated four factors: routine seeking, emotional reaction to

Table 2.2 Measures to Assess Employee Reactions to Organizational Change

OC construct	Instrument and author	Sphere (attitudinal/value/behavioral/hybrid)	Factors	No de Items	Level of analysis de (individual, group, organization)	Scale	Example of item
Attitude	Attitudes Toward Change in General-Initial Instrument (Dunham et al., 1989)	Attitudinal	Three dimensions: affective, cognitive, and behavioral intent	18	Individuals report about themselves, other workers, and the organization	7-point Likert scale (1 – totally disagree to 7 – totally agree)	"I do not like changes" "Most of my co-workers benefit from change" "Change usually benefits the organization"
Attitude	Attitudes Toward Change Questionnaire (ACQ) Vakola et al. (2004)	Attitudinal	14 positive factors and 14 negative factors	29	Individual self-report	5-point Likert scale (1 – totally disagree to 5 – totally agree)	"I am looking forward to changes within my work environment" "When a new organizational change program is initiated, I emphatically show my disagreement"
Reactions to specific work changes	Attitudes Toward Change (Giauque, 2015)	Attitudinal	One dimension: all the items concern specific job aspects	6	Individual self-report	5-point Likert scale (1 – very unfavorable to 5 – very favorable)	Organizational changes had a favorable or unfavorable impact on your job regarding "management of uncertainties"
Reactions to organizational change	Change Recipients' Reactions (CRRE) Scale Tsaousis and Vakola (2018)	Attitudinal	Three-factor model (cognitive, emotional, and behavioral)	21	Individual self-report	5-point Likert scale (1 – strongly disagree to 5 – strongly agree)	I feel uncomfortable with the change that they are trying to implement

Typical attitudes	Attitudes Toward Organizational Change (Neiva et al., 2005)	Attitudinal	Three factors: skepticism, fear and acceptance of changes	36	Individuals report about themselves, other workers, and organization	5-point Likert scale (1 – strongly disagree to 5 – strongly agree)	"People are afraid because of the uncertainty generated by the new way of working" "This organization does not plan processes of change – they just happen"
Teachers' attitudes	Teacher Attitudes Toward Change Scale (TATCS) (Kin & Karrem, 2017)	Attitudinal	Three factors: cognitive, behavioral, and affective reaction to change (positive and negative) Four quadrants: acceptance, embracing, resistance, and indifference	9	Individuals report about themselves, other workers, and the organization	6-point Likert scale (1 – totally disagree to 6 – totally agree)	Most changes at my school are pleasing Change frustrates me I often suggest changes for my school
Readiness	*Readiness for Organizational Change Scale* (Holt et al., 2007)	Attitudinal	Four dimensions: (1) change-specific efficacy, (2) appropriateness, (3) management support, and (4) personal valence	25	Individual	7-point Likert scale (1 – totally disagree to 7 – totally agree)	There are legitimate reasons for us to make this change Our organization's top decision-makers have put all their support behind this change effort When we implement this change, I feel I can handle it with ease My future in this job will be limited because of this change

Table 2.2 (continued)

OC construct	Instrument and author	Sphere (attitudinal/ value/ behavioral/ hybrid)	Factors	No de Items	Level of analysis de (individual, group, organization)	Scale	Example of item
Resistance	*Resistance to Change Scale* (RTC) (Oreg, 2003)	Attitudinal	Cognitive, affective, and behavioral aspects distributed into four factors: (a) routine seeking, (b) emotional reaction to imposed change, (c) short-term focus, and (d) cognitive rigidity	16	Individual	6-point Likert scale (1 – totally disagree to 6 – totally agree)	I'd rather be bored than surprised. When I am informed of a change of plans, I tense up a bit Changing plans seems like a real hassle to me My views are very consistent over time
Resistance	*Escala de Resistência à Mudança* (RAM) [Change Resistance Scale] [Bortolotti, 2010)	Hybrid: attitudinal and behavioral	Three levels: acceptance, indifference, and resistance to change	52	Individual	4-point Likert scale (1 – totally disagree to 4 – totally agree)	Change is positive to employees I am indifferent and not surprised by changes When they talk about changes, I pretend it has nothing to do with me

Commitment to change	*Commitment to change* (Herscovitch & Meyer, 2002)	Behavioral	Three dimensions: affective, continuity, normative commitment	22	Individual	Items were rated on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree)	Twenty-two items were written to measure commitment to change: seven items assessed affective commitment (e.g., "I believe in the value of this change"), seven items assessed continuance commitment (e.g., "I have no choice but to go along with this change"), and eight items assessed normative commitment (e.g., "I would feel guilty about opposing this change")
Openness to change	*Change-Related Commitment* (Jansen, 2004)	Behavioral	One dimension	8	Individual	Eight items assessed the participants' agreement with and willingness to work toward the goal (= 0.93)	It is hard for me to take this change seriously; the principles of this change effort are good goals to shoot for; it is unrealistic to expect that I will adopt this change
Commitment to change	*Commitment to organizational change scale (Cinite & Duxbury)*	Behavioral	One dimension	6	Individual	7-point Likert scale (1 – totally disagree to 4 – totally agree)	I introduce changes in my daily work to help the organization achieve its change goals
Openness to change	Individual-level openness to the process of change (Randall, Nielsen, & Tvedt, 2009)	Attitudinal	One dimension	3	Individual	Agreement	"I have high expectations that the workshops can improve my skills in using ICT in my daily work

(continued)

Table 2.2 (continued)

OC construct	Instrument and author	Sphere (attitudinal/value/behavioral/hybrid)	Factors	No de Items	Level of analysis de (individual, group, organization)	Scale	Example of item
Openness to change	Individual-level openness to the content of change (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989)	Attitudinal	One dimension	8	Individual	Agreement	"The use of ICT gives me more control over my job"
Openness to change	Group-level openness to the content of change 9 Augustsson et al., 2017)	Attitudinal	One dimension	Um item	Group	Agreement with aggregation at the group level	("At my workplace, we are positive towards the use of ICT")
Resistance	Resistance to organizational change scale (Cinite & Duxbury, 2018)	Behavioral	One dimension	4	Individual	7-point Likert scale (1 – totally disagree to 7 – totally agree)	I provide constructive suggestions to people who are in a position to influence the change
Change-supportive behavior	*Change-supportive behavior* (Kim et al., 2011)	Behavioral	One dimension	3	Individual	5-point scale ranging from 1 – not at all to 5 – to a very great extent	I have made suggestions to be addressed in the councils

Change-supportive behavior/ resistance to change	*Escala de Respostas Comportamentais à Mudança Organizacional* [Scale of Behavioral Responses to Change]	Behavioral	Two dimensions: change-supportive behavior and resistance to change	19	Individual and collective versions	11-point Likert scale (0 – totally disagree to 10 – totally agree). The scale was developed considering factors that portray change-supportive behavior and resistance to change, which have been addressed in the literature (Choi, 2011; Kim et al., 2011)	Individual version I declare that I am in favor of the changes that have occurred I seek information about change I ridicule those responsible for the change I disobey the new rules introduced by the change Collective version The employees declare to be in favor of the changes that have occurred The employees ridicule change agents The employees actively participate in the change process The employees deny that change is happening
Cynicism About Organizational Change	*Cynicism About Organizational Change*	Attitudinal	Two dimensions	8	Individual	Employees were asked to indicate their agreement with change-related statements on a scale ranging from 1 – strongly disagree to 7 – strongly agree. Lower scores suggest less cynicism toward change	"Suggestions on how to solve problems will not produce much real change," "plans for future improvements will not amount to much," and "the people responsible for making changes here do not have the skills needed to do their jobs"

imposed change, cognitive rigidity, and short-term focus. It became the primary measure addressing resistance to organizational change and presents data and convergent validity with samples from various countries (Oreg et al., 2008). The authors sought individual differences in the structure, with validity evidence from different cultures, and also tried to associate the structure of values to dispositional resistance to change. Schwartz's (1992) theory of personal values was used as a framework to assess the validity of the measure between cultures. Assuming that dispositional resistance shares its meaning across cultures, openness to change was negatively correlated to conservative values and positively correlated with resistance scores in all the countries included in the sample (Oreg et al., 2008). Other results also indicated that idealistic values and organizational climate explained resistance to organizational change, predicting self-perceived performance (Freires et al., 2014). The importance of the dispositional resistance approach is that it predisposes individuals to see the change from a particular perspective, whether negative or positive. However, the level of resistance toward a specific event of change will be influenced by other factors such as the organizational context and how changes are implemented. Consequently, the importance of dispositional resistance lies in its ability to influence organizational readiness to change and identify the level of resistance managers can expect to find, and therefore, which approach should be adopted (Michel et al., 2013).

In 2010, Bortolotti created a measure of resistance to change (RAM) based on the Item-Response Theory (IRT), using cause variables, individual variables, context, and result variables. The one-dimension scale contains 52 items and obtained a Cronbach's alpha equal to 0.75. The split model was adopted due to its precision in estimating the respondent's level in the latent trait resistance to change. With this statement, "Resistance to change is a latent trait or a latent variable," Bortolotti (2010 p. 28) highlights that its characteristics cannot be directly measured. Therefore, the following definition was adopted to develop the dimension "Resistance to organizational change" of the scale behavioral response to change: a manifestation of stated or implicit opposition to change (Kim et al., 2011).

Recent studies address how employees express resistance to change, such as the resistance to organizational change scale proposed by Cinite and Duxbury (2018). This scale was based on the frequency of resistance using exploratory and confirmatory factor analyses. Findings suggest that employees resist "expressing their concerns regarding changes," and only employees committed to change tend to "express their concerns" to those higher in the hierarchy. Four items were found to typify the behavior of employees who resist organizational change. Cronbach's alpha was 0.77. Other tests determined that the measure presented high convergent and discriminant validity (AVE was 0.58 and greater than the square correlation between the two subscales). Chi-square was 406.168 (degrees of freedom [df] = 239, $p < 0.001$), root mean square residual (RMR) was 0.034 (the closer to 0 the better), and all the other goodness of fit indexes were satisfactory, above 0.9; comparative fit index (CFI) = 0.977, goodness of fit index (GFI) = 0.944, adjusted goodness of fit index (AGFI) = 0.930, and normed fit index (NFI) = 0.947. Root mean squared error of approximation (RMSEA) = 0.035 did not reach the commonly accepted

upper limit of 0.05, with a 90% confidence interval between 0.029 and 0.040, $p = 1.000$.

2.9 Change-Supportive Behavior: The Relevance of Studying and Measuring Behavior Toward Organizational Change

Many authors recently defended that emphasizing current behavior toward organizational change, active support, and collective actions produces more consistent results than emphasizing psychological states and individual and passive responses. Change-supportive behavior – such as expressing active behavior toward changes, participatory behavior – facilitates and promotes changes (Kim et al., 2011). In this sense, Kim et al. (2011) define "change-supportive behavior as actions employees engage in to actively participate, facilitate, and contribute to a planned change." This definition seems very appropriate to assess the responses of individuals to change.

This definition contains three elements that differ from other constructs: (a) it focuses on visible behavior instead of psychological states toward organizational change, such, for instance, behavioral intentions or attitudes; (b) it emphasizes active support to change, adapting, or dealing with changes; and (c) it implies collective support to a planned change process, instead of individual effort (Bordia et al., 2011; Oreg et al., 2011; Vakola et al., 2013; Vakola, 2016).

The studies conducted in the last 15 years were reviewed to list the instruments used to measure positive behavioral responses to organizational change (Kim et al., 2011). In 2011, Kim et al. advanced knowledge by developing a scale to address change-supportive employee behavior. By taking into account the following constructs: commitment to change, readiness to change, attitudes toward organizational change, and openness to change, the authors developed the Change-Supportive Employee Behavior scale, composed of three items rated on a five-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent). This measure explicitly addresses the positive and active role employees can play in supporting organizational change. Change-supportive behavior is defined as actions employees actively engage in to facilitate and contribute to a change proposed by an organization, or more precisely, by the organization's management. This definition contains three elements that differ from the constructs previously studied: (a) it focuses on actual behavior, instead of change-related psychological states such as behavioral intentions or attitudes; (a) it emphasizes active support to change, instead of passive responses such as merely agreeing, adapting, or coping with change; and (c) it involves collective planned effort instead of individual effort. The instrument addresses active contributions (proactive behavior) beyond mere adaptive behavior, such as planned organizational change. Three items operationalize the main change-supportive actions: "I have made suggestions to be addressed in the Councils" and "I have discussed issues with co-workers." Internal consistency was 0.85 (T1) and

0.91 (T2). A five-point Likert scale (1 = not at all to 5 = to a large extent) was used in all the measures. The scale obtained internal consistency equal to 0.85 and 0.91 at different points in time.

The *Escala de Respostas Comportamentais à Mudança Organizacional* [Behavioral Responses to Organizational Change Scale] was designed and tested, including content validity (expert panel), construct validity (exploratory and confirmatory factor analyses), and convergent validity (Nery et al., 2020). The 19-item scale ($R^2 = 58.46\%$) is based on a two-latent factor structure. The items are rated on an 11-point Likert scale ((0) totally disagree to (10) totally agree). The scale considers factors addressed in the literature and which portray change-supportive responses and resistance to change (Choi, 2011; Kim et al., 2011). The scale comprises the individual and collective dimensions (two versions with similar validity evidence) and two factors: support to change (9 items) assesses behaviors that support change processes, such as flexibility, openness to change, defense of change ($a = 0.91$), and resistance to change with ten items that assess opposition to organizational change ($a = 0.90$). The confirmatory factor analysis confirmed the bi-factor structure for the collective and individual versions, with satisfactory goodness of fit (individual version, c2 = 182.35; df = 88; RMSEA = 0.05; CFI = 0.93; TLI = 0.94; collective version, c2 = 86.91; df = 42; RMSEA = 0.05; CFI = 0.96; TLI = 0.97).

The responses of individuals to organizational change involve their reactions expressed during change programs and which may present positive or negative valence or be ambivalent (Piderit, 2000). Despite its relevance, there are few instruments with validity evidence to measure behavioral response to change (Bortolotti, 2010), and among the existing measures, none simultaneously address change-supportive behavior and resistance to change. Organizational change may elicit different emotions and reactions that range from optimism to fear, possibly including anxiety, resistance, enthusiasm, inability, motivation, or pessimism (Bortolotti, 2010).

Additionally, there is great emphasis on negative responses to organizational change, given the many studies addressing resistance to organizational change (Kim et al., 2011). Few studies assess positive responses to organizational change programs such as supportive behavior and commitment to change (Kim et al., 2011). Another issue to be considered is that few studies consider these responses to belong to a support-to-resistance spectrum (Lines, 2005; Piderit, 2000). Finally, the level of analysis was expanded from the individual to the middle level. In this sense, Nery and Neiva (2015) argue that the phenomenon may involve a range of positive and negative reactions that can be placed on a continuum, from the individual to the collective level, when it becomes a group behavior pattern.

2.10   Conclusions and Recommendations

The state-of-the-art literature indicates the emergence of measures that advanced from the individual to the relational and collective level, attempting to understand the role of collective attitudes toward OC. There is also an improved understanding

of the management's role in responses to OC. Additionally, behavioral measures present relevant results to support interventions in change processes intending to improve worker wellbeing.

Traditionally, responses to organizational change predominantly involve cognitive and affective aspects and potentially behavioral intention. Additionally, there is great emphasis on negative responses to organizational change, given the many studies addressing resistance to organizational change (Kim et al., 2011). Few studies consider the possibility of responses/reactions belonging to a support-resistance continuum (Lines, 2005; Piderit, 2000). In general, the phenomenon involves a spectrum of positive and negative reactions that can be structured on a continuum, starting at the individual level and reaching the collective level, configuring a group behavior pattern (Nery & Neiva, 2015).

Despite the various factors considered by studies addressing responses to change, there are gaps concerning how the construct is defined and measured, along with problems that hinder comparing and integrating the findings of different studies. There is significant inconsistency in how the terms are used in studies addressing responses to change. Authors should be clear about the distinction between (previous or contextual) antecedents of change, explicit responses, and consequences of change. Additionally, authors need to specify the names given to variables. For instance, variables such as organizational commitment and job satisfaction may be considered both pre-change antecedents and a consequence of responses to change.

Even though the definitions involve cognitive, affective, and behavioral components, authors should note which component is addressed. Studies should focus on behavioral responses considering that the measurement of behavioral responses has been more successful. Another aspect to be considered refers to the progression of theories and approaches that include cognitive and affective assessments as specific objects of study and require methods and theories to advance in the Theory of Planned Behavior (Ajzen, 1991).

Many studies report explicit responses as a result or consequence of change processes. Explicit responses are often different from consequences of changes, which are diverse and may vary in terms of the organizational levels in which they occur. As more results concerning the responses of recipients of change are reported, more specific studies are needed to investigate whether explicit responses differ from the consequences of changes and in which circumstances.

The recipients of change are naturally concerned with personal impacts. If perceived risks/costs outweigh the benefits, collaborators will naturally resist changes. Managers do not always foresee how the recipients of change will respond to change and do not consider their perspectives. Global and local change agents need to be clear from the outset about the precise ramifications the program will result for the recipients of change. More importantly, however, change agents should pay attention to these ramifications and attempt to understand and incorporate the viewpoint of the recipients of change when planning organizational changes. In practice, they should carefully plan interventions and make an effort to explain how threats can be addressed and, at the same time, present and highlight how such a change can personally benefit the employees, in addition to its importance for the organization.

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