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Running head: REVIEW OF ATTRIBUTIONS THEORIES IN HRM

**Attribution Theories in Human Resource Management Research:
A Review and Research Agenda**

For Peer Review Only

Attribution Theories in Human Resource Management Research: A Review and Research Agenda

There is no doubt that attribution theories have made their mark in social psychology and other related disciplines, but their application and extension to the field of human resources (HR) is in its infancy. Indeed, HR scholars have recently realized that understanding the process by which individuals explain the causes of behaviors and events provides insight into a host of HR-related issues. In our review of 65 papers, we identified three research streams with different foci – those that focused on HR system strength, on attributions that influence judgements and behaviors within functional HRM domains, and on the attributions employees make of the intent of HR practices. Notably, despite shared foundations, these three streams of literature rarely overlap. We summarize and provide theoretical and empirical directions for future research within each research area to help steer courses in these areas. Importantly, we also draw connections among the three streams to inspire future research to stretch the bounds of current theorizing on attributions in the field of HR.

Keywords: attribution theory; HR attribution theory; HR system strength; HR process; review; HR theory

Introduction

At the heart of attribution theory is the assertion that people are on a continuous quest to explain events that they encounter. Why did they reject my research proposal? Why did I receive a poor performance rating? Why is the train late? Attribution theory, originally developed by Fritz Heider in the early part of the 20th century, ignited scholarly interest in such causal inferences. His work was subsequently developed by others in the field of social psychology; most notably Harold Kelley and Bernard Weiner, resulting in several complementary, and at times overlapping, theories of attributions (Fiske & Taylor, 1991). Despite their differences, each of these theories attempts to explain how people arrive at causal inferences, what inferences they make, and the behavioral and attitudinal consequences of those inferences.

Although attribution theories generated great enthusiasm from social psychologists prior to the 1980s, attention has since then been on the decline (Weiner, 2008). At the same time, the use of attribution theories in the field of HR has accelerated (see Figure 1). We do not foresee the pace slowing down anytime soon; as we write this review, two high impact journals within our field – *Journal of Organizational Behaviour* and *Human Resource Management Journal* – have recently released calls for papers for special issues on this topic. In part, this is because two key theories with attribution tenets at their heart – HR system strength (Bowen & Ostroff, 2004) and HR attributions theory (Nishii, Lepak & Schneider, 2008) – have invigorated attention in this area, and there has been a resurgence in the interest of the role of attribution theories in explaining the so called ‘black box’ between HR and performance (e.g. Ehrnrooth & Björkman, 2012; Ostroff & Bowen, 2016; Sanders, Shipton, & Gomes, 2014).

INSERT FIGURE 1 ABOUT HERE

In addition to the two HR theories heavily influenced by attributions theories, the concept of attributions bubbles under the work of others in the HR domain. However, these theoretical and empirical developments have been largely operating in silos, in part because they stem from different theoretical strands of attribution theories, they operate at different levels of analysis, and the object of the attribution differs. Consequently, we know very little about how these inter-related research streams are complementary and we have yet to address the possibility that they can be united under a general framework (Malik & Singh, 2014; Ostroff & Bowen, 2016). The

purpose of this review is therefore to take stock of the application of attribution theories in the field of HR to help clear some paths among these burgeoning areas of research. In doing so, we also hope to inspire future research to investigate the application of attribution theories because they have a rich and well developed approach that has a great deal to say about a wide range of HR-related issues.

In the remainder of this paper, we firstly summarize three key strands of attribution theory that have been particularly influential in HR research. Doing so is important because we see connections between these different strands and their development, and theoretical and empirical advancements in how HR scholars have approached attribution theories. Next, we describe and draw insights from our review of the extant literature on attribution in HR, grouping studies into three themes: HR system strength, attributions that feature within functional HR domains, and attributions of the intent of HR practices. Within each, we review papers and provide suggestions for future research. This is followed by a discussion of how future studies might theoretically and empirically connect the three theoretical camps.

INSERT TABLE 1 ABOUT HERE

Attribution Theories: A Historical Review

In this section, we summarize three theories of attribution. Heider's 'common-sense' psychology is reviewed first because its tenets sowed the seeds for the second and third variations of attribution theory: Kelley's work on covariation and Weiner's attributional theory. Although there are multiple strands of attribution theory, we focus on these three theories because they have been influential for organizational scholarship (Martinko, Harvey, & Dasborough, 2011) and have already been incorporated into the HR literature to some extent.¹

Heider's attribution theory

The conception of attribution approaches is found in the work of Fritz Heider (1958), who famously stated that individuals concoct common sense explanations of the world in order to make sense of, predict, and control events. Heider suggested that a layperson's explanations

¹ For readers interested in other attribution theories, Schachter's theory of emotional ability (1964), Bem's self-perception theory (1967, 1972), and Jones and Davis' correspondence inference theory (1965), may prove fruitful as the application of attribution theories to HR theory advances.

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3 are naïve, in that they are not scientifically conceptualized, analyzed, or tested. However, the
4 process by which individuals arrive at explanations for events is akin to the way in which
5 scientists arrive at explanations; that is, in a fairly logical and analytical manner. Heider's most
6 important thesis is that perceived causality influences the perceiver's responses and actions. He
7 elaborated this theory via several propositions, of which we summarize the most influential here.
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12 The first key tenet of Heider's work is the distinction between actions due to personal
13 causes versus those that are related to the environment. In other words, the attributions people
14 make are dependent on whether the *locus of causality* for the behavior or event is the person
15 (internal), or the environment (external), or both. Internal locus consists of both *motivation* and
16 *ability*. For instance, an employee might be late for work because he or she is unmotivated or
17 lacks the ability to arrive on time. However, motivation and ability are often insufficient;
18 situational (external) factors also influence attributions. For example, if the employee is late on a
19 morning with a blustery snowstorm, then arriving to work on time is a joint feature of the
20 weather, motivation and ability. The manager uses information about motivation, ability, and
21 situational factors to infer the cause of the event.
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30 A second key proposition of Heider's theory is the identification of certain "errors of
31 attribution" in how people make causal inferences. For instance, the *fundamental attribution*
32 *error* occurs when individuals focus on internal, rather than external factors to explain another
33 person's behavior (Ross, 1977). Another error, called the *actor-observer effect*, describes the
34 propensity for actors to attribute their own actions to external causes ("I received a poor
35 performance appraisal rating because my manager is unfair"), while observers attribute the same
36 actions to internal features ("She received a poor performance appraisal rating because she is a
37 poor performer"; Jones & Nisbett, 1972). Finally, Heider described the *self-serving bias*, which
38 states that people attribute their own success to dispositional and internal factors, while external
39 and uncontrollable factors are used to explain the reasons for their failure (Miller & Ross, 1975).
40 For instance, employees who receive a promotion attribute this success to their talent, but if they
41 fail to receive the promotion, they attribute it to management unfairness.
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52 53 ***Kelley's attribution theory***

54 Heider's theory was further expanded by Kelley (1967, 1973) who wrote several theoretical
55 papers that drew attention to how individuals infer causes about a person's behavior or events.
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3 When a person has access to multiple instances of the same behavior or situation, Kelley
4 proposed that people employ a *covariation principle* to infer the causes.² To illustrate this theory,
5 imagine that a manager is irritable. In trying to understand why the manager is irritable,
6 employees identify any potential causes for the irritability, and attribute the effect to the most
7 likely cause based on the information available to them. Kelley (1967) outlined three types of
8 covariation information that influence whether an observer attributes a person's behavior to
9 internal or external causes. The first is *distinctiveness*, which refers to the extent to which a
10 person behaves in the same way across similar situations. If the manager is irritable at home and
11 at work (low distinctiveness), then an observer makes an internal attribution (e.g. the manager is
12 generally an irritable person). Observations of different people allow for judgements to be made
13 about the second type of covariation information, that is, *consensus*. If coworkers agree that the
14 manager is irritable (high consensus), they make an internal attribution. The third is *consistency*,
15 which refers to the extent to which a person behaves consistently over time. If the manager has
16 been frequently irritated in the past, observers make an internal attribution because, regardless of
17 the environment, the manager becomes irritable on a frequent basis. Different combinations of
18 information yield meaningful causal inferences about why an event occurred (see Fiske &
19 Taylor, 1991 for a review of these combinations).³ Whereas the above example illustrates how
20 the covariation principle explains attributions of an individual's behavior, Kelley (1967) stated
21 that observers attribute an event or behavior to a stimulus or *entity* (such as HR practices) when
22 distinctiveness, consistency, and consensus are all high.
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41 ***Weiner's attributional theory***

42 The third, and final model of attribution that we review here is the work of Weiner (1979), who
43 explored attributions within domain-specific contexts, such as helping and achievement, and is
44 oftentimes termed an *attributional theory* (Fiske & Taylor, 1991). Unlike Heider and Kelley, who
45 presented somewhat static attribution models, Weiner explained how causal attributions
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52 ² When a person lacks clear information about an event or behavior, they fall back on *causal schemas*, defined as "a
53 general conception the person has about how certain kinds of causes interact to produce a specific kind of effect"
54 (Kelley, 1973b, p. 151).

55 ³ Despite the seemingly high cognitive effort involved in the covariation process, Kelley argued that people do not
56 engage in extensive assembling of information as seemingly required by covariation analysis. Instead, people
57 construct cause and effect patterns that enable them to make causal inferences relatively quickly.
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3 influence future expectations, emotions, and performance. In his application to an achievement
4 context, Weiner maintained that people respond emotionally (negatively or positively) to task
5 success or failure based on the attributions that they make about the reasons for behavior after an
6 event occurs (Weiner, 2008). Weiner therefore extended Heider and Kelley's attribution theories
7 by suggesting a temporal order for attributions, in that individuals consider the reasons for
8 behavior or actions after the event which brings dynamism to the theory, in that these attributions
9 can change over time according to the situation.
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16 According to Weiner and colleagues, any task success or failure is followed by a search
17 for the cause of the outcome along three dimensions: locus of causality (as in Heider's work),
18 stability, and controllability (Weiner, 1979; Weiner, Heckhausen, & Meyer, 1972). The stability
19 of the behavior echoes Kelley's work yet it is more clearly articulated by Weiner to explain how
20 causal analysis is most informative when stable causes are identified (e.g. dispositions).
21 Controllability is also important because people do not make causal attributions solely to
22 understand why something happened, but also to control future events. Different combinations of
23 locus of causality, stability and controllability in an achievement context are associated with
24 attributions of ability, effort, task difficulty, and luck. For example, an employee is likely to
25 make an ability attribution ("My pitch wasn't good enough to make the sale") when the cause of
26 the failure is seen as due to stable ("I am not a good salesperson") and controllable ("I had the
27 resources necessary to make the sale") factors (Fiske & Taylor, 1991).
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37 Together, Heider, Kelley and Weiner set down the theoretical foundations of attribution
38 theories. In the remainder of this paper we draw on the key propositions as a basis to examine the
39 way the field of HR has leveraged attribution theories. We deliberately eschewed a graphical
40 illustration of how the different social psychological attribution theories fit together because we
41 concluded that doing so would blur the nuances of each strand of attribution theory. In his
42 description of the field, Weiner (2008, p. 154) stated that attribution theory is not a "central
43 forest fire on which many heap woods and brush" but rather that "the wind scattered the fire to
44 various locations, giving rise to numerous smaller pockets of flame. There were indeed paths
45 between these various bonfires, but nonetheless the fires remained separate, extinguished at
46 different rates, and left separate legacies...there are many attribution-based theories and
47 attribution is better characterized as a field of study rather than a theory." We see the same
48 dynamics occurring within the field of HR. HR scholars have drawn from different elements of
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3 attribution theories and yet we see little integration of the different perspectives. However, the
4 time is ripe to create “paths between these various bonfires” because of the ways in which
5 adaptations of attribution theories have evolved in the HR literature. In what follows, we review
6 the literature in this area, followed by a discussion of how to clear the weeds to create paths
7 among them.
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14 **Review of Attribution Theories Applied to Human Resource Management**

15 For this review, we searched for published articles which use attribution theories to explain HR
16 processes. We used major databases such as *Business Source Premier* and *Science Direct*, and
17 examined papers that have been published in major HR and management journals, including:
18 *International Journal of Human Resource Management*, *Human Resource Management Journal*,
19 *Human Resource Management*, *Personnel Psychology*, *Academy of Management Journal*,
20 *Academy of Management Review*, *Academy of Management Annals*, *Journal of Applied*
21 *Psychology*, *Journal of Organizational Behavior*, *Journal of Management*, and *Organizational*
22 *Behavior and Human Decision Processes*. We also examined all papers that cited either of the
23 two most influential papers that have leveraged attribution theories to understand HR processes
24 (Bowen & Ostroff, 2004; Nishii et al., 2008) to ensure that we identified all relevant papers. We
25 included only empirical papers published in peer reviewed journals. We read each article
26 carefully to ensure we included only those studies that operationalized one of the established
27 attribution theories. We excluded articles in which one of our selected attribution theories was
28 used only in general terms. Although there is some overlap between papers that consider HR-
29 related topics with those in management and organizational behavior, we included only papers
30 from these domains that applied attribution theories specifically to HR practices, rather than
31 considering attributional processes in the management domain more broadly. We excluded
32 research on leadership because other scholars have already considered the role of attributions
33 theories in this domain (Martinko, Harvey, & Douglas, 2007). Our search incorporated all
34 articles published or forthcoming as of May 2017.
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Our search resulted in 65 papers which are summarized, along with their key features, in Table 1⁴. We categorized them into three, broad theoretical perspectives. The first group of papers examines individuals' perceptions of characteristics of the HR system to explain consistency in how individuals respond to HR practices. This area of research is primarily inspired by the work of Kelley (1973), and later developments by Bowen and Ostroff (2004), who created HR system strength (HRSS) theory. We identified 17 papers which examined this theoretical perspective. Of these, 15 specifically tested Bowen and Ostroff's model, and the remainder were more broadly inspired by the work of Kelley. The second area represents research primarily inspired by the early work of Heider (1958) on internal and external causal attributions and related work by Weiner (1985) on achievement attributions. These theoretical perspectives have been applied to understand individuals' responses within specific, functional HR practices (FHRA). A total of 36 papers fit into this category, of which the majority examine achievement attributions related to performance management, or occupational health and safety concerns. The final research area is concerned with attributions of intent with respect to HR practices. This research is rooted primarily in Weiner's (1982) attributional theory, and was most influentially developed in the HR domain by Nishii et al. (2008) who referred to it as HR attributions theory (HRA). We identified a total of 12 papers in this area, with seven specifically focusing on Nishii and colleagues' more recent conceptualization.

37 ***HR System Strength***

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Bowen and Ostroff's (2004) HR system strength (HRSS) theory starts with the premise that the relationship between HR and organizational performance is dependent on employees' shared perceptions about the types of behaviors that the organization expects, values, and rewards. HRSS is a property of the organization, wherein HR practices send clear signals to employees that form the basis of psychological climate perceptions. Without a strong HR system, individual-level idiosyncratic perceptions of HR practices drive behavior.

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At the center of HRSS theory is Mischel's (1973) definition of *strong situations*, which suggests that the influence of individual differences on behavior is thwarted under situations which provide structure and clarity regarding the types of behaviors that a person is expected to

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⁴ Not all 65 papers are discussed in the body of the paper. Our review aimed to draw out the key insights so papers offering similar perspectives or conclusions are not always discussed.

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3 perform. Applying this theory to HR implies that the goal for organizations is to create strong
4 HR systems that drive employees' behavior in intended (i.e. strategic) ways. Bowen and Ostroff
5 drew from Kelley's work to propose nine meta-features of the HR system, grouped into
6 distinctiveness, consistency, and consensus, that together signify a strong HR system.
7 Specifically, they theorized that higher levels of visibility, understandability of the practices,
8 strategic relevance, and legitimacy of authority indicate distinctiveness. Instrumentality, validity
9 of practices, and consistency in messages provide consistency. Finally, consensus emerges when
10 there is agreement among message senders and when practices are fair. These nine features
11 together provide the conditions for a strong HR system.

12 We begin our review of studies with a discussion of measurement of HRSS, as this
13 provides context in which to interpret research from this area. Next, we discuss its correlates.
14 Then, we review evidence on the relative importance of each meta-feature, and conclude with the
15 inter-relatedness of consistency, consensus and distinctiveness.

26 27 28 *Measurement.*

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30 Bowen and Ostroff originally suggested that system strength is an organizational-level
31 variable, which has implications for both shared and individual-level outcomes, including
32 climate (Ostroff & Bowen, 2016). Yet, we find very few studies which have tested HRSS at the
33 organizational- or unit-level. An ideal study design would mirror the work of climate researchers
34 (e.g. Schneider, Salvaggio, & Subirats, 2002) and collect data from numerous groups or
35 organizations to enable multi-level modeling to compare HRSS between groups. Although some
36 researchers have implied that their multi-level research examines the strength of the HR system
37 (e.g., White & Bryson, 2013; Stumpf, Doh, & Tymon, 2010), multi-level research on the meta-
38 features of distinctiveness, consistency and consensus is largely missing. We found one
39 exception to this; Katou, Budhwar and Patel (2014) aggregated individual perceptions of system
40 strength to the organizational level across 133 organizations.

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42 The general tendency towards relying on individual perceptions represents a significant
43 limitation of this body of research, in that HRSS has not been comprehensively tested as it was
44 intended. Treating HRSS as an individual level perception implies that, rather than explaining
45 how HR systems avoid idiosyncratic responses between individuals (Mischel, 1973), it explains
46 variability in how individuals respond. The rest of our review focuses largely on this individual-
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3 level research, but conclusions about the value of system strength are limited because these
4 studies do not capture agreement among employees, a defining feature of HRSS theory.
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7 Two self-report scales have been developed to capture employee-level perceptions of
8 HRSS. First, Delmotte, De Winne and Sels (2012), rather than confirming Bowen and Ostroff's
9 (2004) original nine features, found support for seven. Delmotte and colleagues split justice into
10 procedural and distributive, and failed to find support for the features of legitimacy,
11 understandability, and instrumentality. A second scale, developed by Coehlo et al. (2015), also
12 failed to support Bowen and Ostroff's nine dimensions, instead finding eight. Agreement among
13 decision makers was independent of the other features so it was excluded; therefore, consensus
14 was equated only with fairness, thereby throwing into question whether consensus is different
15 from the well-trodden area of justice. These two papers highlight issues with the psychometric
16 properties of the HRSS construct measured at the individual-level, and might explain why
17 empirical research in this domain has been relatively limited.
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26 Moving beyond capturing only individual level perceptions, scholars have attempted to
27 capture the collective nature of consistency, consensus and distinctiveness as originally set forth
28 in HRSS theory. For example, in aiming to tap into consensus, both Sanders et al. (2008) and
29 Guest and Conway (2011) examined the extent to which CEOs and HR managers agreed that HR
30 is effective. Similarly, researchers have used indices of within-person agreement about the
31 presence of multiple HR practices to indicate consistency. Sanders, Dorenbosch and de Reuver
32 (2008), for example, measured consistency as the within-person agreement regarding perceptions
33 of different high commitment HR practices (e.g. "In my opinion there are enough training
34 possibilities within the organization"). Likewise, Li and colleagues (2011) examined climate
35 strength as within-person agreement of perceptions of high performance work practices.
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44 Finally, a few studies have explored one or more meta-features using qualitative methods
45 of research. Stanton et al. (2010) examined the three meta-features in three hospitals to
46 understand how HR practices are interpreted by, and operationalized across, different levels of
47 management hierarchy and HR practitioners as an indicator of signal strength. Marchington et al.
48 (2011) conducted 54 interviews across four multi-employer networks to examine external
49 influences on the consistency of HR practices operating within a network of firms. In a multiple-
50 case study of health and social service organizations, Piening et al. (2014) interviewed HR
51 managers and employees along all three meta-features with the aim of investigating the
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3 relationship between intended, implemented, and perceived HR practices. Finally, Baluch (2017)
4 examined the three meta-features across eight social service organizations to shed light on the
5 processes by which variations in employee perceptions of HR practices arise. These studies have
6 brought rich insights into how HRSS operates within organizations and the broader contextual
7 influences at play, but were not designed to determine whether organization-level system
8 strength leads to its theorized outcomes, as Bowen and Ostroff's theory suggests.
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14 15 16 *Correlates of System Strength.*

17 Since most research in this area uses both self-report measures and cross-sectional designs, we
18 report the correlates, rather than antecedents or consequences, of system strength. Overall, the
19 results present a compelling picture that HRSS, conceptualized as an individual-level perception,
20 is positively associated with desirable attitudes and behaviors.
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24 Studies examining at least one of the meta-features of HRSS have found positive
25 associations with the way that employees feel about their jobs, including work satisfaction, vigor
26 (Li, Frankel, & Sanders, 2011), motivation, commitment, and work engagement (Katou et al.,
27 2014). HRSS is also positively related with how employees feel about their organization,
28 including affective commitment (Sanders, Dorenbosch, & de Reuver, 2008), organizational
29 identification (Frenkel & Yu, 2011), and is negatively related to intentions to quit (Li et al.,
30 2011). Moreover, HRSS is positively related to desirable employee behaviors, including
31 improvisation behavior (Rodrigues Ribeiro, Pinto Coelho, & Gomes, 2011), citizenship behavior
32 (Katou et al., 2014), and coworker assistance (Frenkel & Yu, 2011). A positive relationship was
33 also found between HRSS and perceptions of the HR function, including satisfaction with HR
34 practices (Delmotte et al., 2012; Gilbert, De Winne, & Sels, 2015), job design (Piening et al.,
35 2014), perceptions of justice in relation to HR practices (Frenkel, Li, & Restubog, 2012), and
36 achievement of HR targets (Hauff, Alewell, & Hansen, 2016). Finally, HRSS has been related to
37 senior management support (Stanton et al., 2010) as well as goal climate quality and strength in
38 relation to management by objectives (Aksoy & Bayazit, 2014).
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51 The only study to our knowledge that has examined the impact of HRSS over time was
52 conducted by Bednall, Sanders and Runhaar (2014). In a time-lag study, they did not find a
53 significant bivariate relationship between HRSS (self-report measures combining perceptions of
54 the three meta-features) and knowledge sharing, innovation, or reflection; however, they did find
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3 that HRSS strengthened the relationship between performance appraisal quality and these
4 outcomes.
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9 *The relative importance of consensus, consistency and distinctiveness.*

10 Although research has indicated that there is some agreement between key stakeholders with
11 respect to HR practices (e.g. Guerci & Pedrini, 2014), studies focusing on the relationship
12 between consensus and theorized outcomes has failed to support the value of this meta-feature.
13 Specifically, research has failed to detect significant relationships between consensus and
14 employee performance (Guest & Conway, 2011), affective commitment (Sanders et al., 2008), or
15 work satisfaction, vigor and intentions to quit (Li, Frenkel & Sanders, 2011). Although still not
16 universal, the meta-feature of consistency has found relatively more support in the literature. For
17 instance, Sanders et al. (2008) found that consistency was positively related to affective
18 commitment, and Li et al. (2011) found that it was negatively related to intentions to quit,
19 although they did not find an association between consistency and either satisfaction or vigor.
20 Unlike consensus and consistency, distinctiveness has been consistently related to employee
21 outcomes. In research conducted by both Sanders et al. (2008) and Li et al. (2011),
22 distinctiveness was the strongest predictor of target outcomes. Likewise, Aksoy and Bayazit
23 (2014) found that consensus, as well as consistency, did not significantly predict the target
24 outcomes in their study (goal quality and strength) but were significant predictors when mediated
25 by distinctiveness, indicating perhaps that distinctiveness is a higher order dimension. This is
26 perhaps not surprising given that classic works on attribution theories state that distinctiveness,
27 or salience of a stimulus, drives attributions (Kelley, 1973; Taylor & Fiske, 1978).
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44 *The relationships among consensus, consistency, and distinctiveness.*

45 Although Bowen and Ostroff (2004) stated that the three meta-features work in concert, there are
46 differences in the level of dimensionality at which the meta-features have been modelled, which
47 has implications for both theoretical and empirical development of the concept. Some research is
48 based on average perceptions of HRSS as a whole (Frenkel & Yu, 2011; Katou et al., 2014;
49 Rodrigues Ribeiro et al., 2011), others distinguish between the three meta-features (Guest &
50 Conway, 2011; Li, Frenkel, & Sanders, 2011; Sanders et al., 2008), and others go further and
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3 examine the individual sub-components proposed by Bowen and Ostroff (De Winne, Delmotte,
4 Gilbert, & Sels, 2013; Gilbert, De Winne, & Sels, 2015; Hauff, Alewell, & Hansen, 2016).

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7 There are several theoretical implications of considering the concept of HRSS at lower
8 levels of dimensionality (i.e. as three or nine dimensions). Firstly, it allows for the detection of
9 differential effects of meta-features with different outcomes. For example, Hauff and colleagues
10 (2016) found that visibility and intensity predicted decision-makers' assessment of the
11 achievement of HR targets relating to the availability and effectiveness of people resources, but
12 not to targets relating to employee attitudes. Likewise, De Winne and colleagues (2013)
13 concluded that different sub-dimensions had different relationships with key stakeholders'
14 perceptions of the role of HR, as defined by Ulrich (1997). Baluch (2017) found that, across
15 multiple case studies, distinctiveness was high, yet consensus and consistency were low,
16 suggesting that a broad overarching measure of HRSS may hide these nuances.

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19 Second, considering the features of HRSS separately allows for the possibility of
20 interactions among strength features. This proposition was tested, to some extent, by Liden and
21 Mitchell (1985) who, drawing on Kelley's (1973) original theory, examined configurations of the
22 features of consistency, consensus and distinctiveness with respect to performance feedback. In
23 support of Kelley's theory, they found that individuals were more likely to make internal
24 attributions for their performance if there was high consistency, low distinctiveness, and low
25 consensus. Likewise, low consistency, high distinctiveness, and high consensus predicted
26 external attributions. Also in support of Kelley's original theory, Sanders and Yang (2016)
27 predicted that high ratings on all three characteristics indicated that individuals' causal
28 attributions were focused on HR practice (the 'entity' in Kelley's theory), and found that a high-
29 high-high configuration strengthened the relationship between high commitment HR practices
30 and affective commitment. This raises the possibility, highlighted by several scholars (Ostroff &
31 Bowen, 2016; Piening, Baluch, & Ridder, 2014), that the meta-features of HRSS may inter-
32 relate, but we are not aware of any research that has empirically tested this proposition.

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51 *Summary and directions for future research using HRSS.*

52 Even though Bowen and Ostroff's (2004) model of HRSS has been widely cited – over 2,000
53 times in 13 years – and was awarded the *Academy of Management Review* Decade Award in
54 2014, there is a relatively small body of research that has leveraged it (Ostroff & Bowen, 2016),
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3 and it has rarely been tested as it was originally conceived. This suggests that, while the
4 propositions set out have intuitive appeal to HR scholars, they are difficult to operationalize. This
5 is reflected in the inconsistencies in how the framework is tested and issues relating to the
6 psychometric properties of the measures. These inconsistencies may point to issues with the
7 original theoretical framework, indicating that refinement is needed. Or, they may simply
8 represent a lack of coherent understanding in how the framework should be applied.
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11 We identified several issues relating to the measurement of the construct. These issues go
12 beyond methodology because they highlight inconsistencies in how HRSS is conceptualized,
13 which has implications for the application of the theory. Although attempts have been made to
14 measure HR system strength in different ways, we agree with Ostroff and Bowen (2016) that
15 doing so changes the nature of the construct, and therefore the expected relationships with other
16 key variables. Like Ostroff and Bowen (2016), we notice that given the emphasis on climate in
17 the original theory, it is surprising that very few studies have linked system strength to climate.
18 These authors provided several avenues for future research in this regard, including examining
19 whether HRSS can be “too strong”, where high levels of consensus might inhibit creativity, or
20 stifle voice. Future research is also encouraged to verify and extend one of the key, yet untested
21 tenets of HRSS – that consistency, consensus and distinctiveness leads to a shared sense of what
22 the organization values and rewards.
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26 Another important consideration is whether HRSS is a mediator or moderator of
27 relationships between the content of HR, and individual or organizational outcomes. Although
28 Bowen and Ostroff (2004) postulated that HRSS mediates HR systems and outcomes, several
29 researchers have explored HRSS instead as a moderator of the relationship between individual
30 perceptions and individual outcomes (e.g. Bednall, Sanders, & Runhaar, 2014; Katou et al.,
31 2014; Sanders et al., 2008; Sanders & Yang, 2016). Research that finds a way to theoretically
32 and empirically untangle its mediating versus moderating effect would be worthwhile.
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36 Finally, there are remaining questions about the strategic focus of HRSS. Ostroff and
37 Bowen (2016) stated that their theory focuses on the ways that HRSS enables “the creation of a
38 strong organizational climate for a particular strategic focus – for example, service or cost
39 leadership” (p. 197). However, organizational and HR strategies also vary in the strength of their
40 strategic focus, as well as their orientation toward employees. Future research could therefore
41 borrow from existing classification schemes that map high-low strategic focus with high-low
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3 employee focus (see Piening et al., 2014) to determine the contextual features associated with,
4 and outcomes of, various types of HR systems.
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7 *Functional HR Attributions*

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9 Attribution theories have been used in the field of HR to explain interpersonal dynamics and
10 attributions of behavior and events within several specific HR functional domains. Most of this
11 research has drawn from Heider's (1958) original conceptions of locus of causality and
12 attributional errors, and Weiner's (1985) attributional theory, yet some also draws from Kelley's
13 (1967) covariation model. In this section, we review research on specific functional HR
14 attributions (FHRA) with respect to performance management, grievances and disciplinary
15 action, recruitment and selection, training, and occupational health and safety. It is noteworthy
16 that the object of attribution here shifts to the behavior of people, rather than to HR systems or
17 practices.
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27 *Performance management.*

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29 Numerous studies dating back over 30 years have examined outcomes of achievement-related
30 attributions related to performance evaluation, evidencing the core tenets of Heider's attribution
31 theory. For example, Dugan (1989) found that managers' evaluations of employee performance
32 were influenced by their attributions of the cause of employees' performance. Managers held
33 employees responsible for poor performance when managers made internal attributions.
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35 Research has also investigated Kelley's covariation principle in relation to performance
36 attributions, largely finding support for it (Johnston & Kim, 1994).
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41 In distinguishing between internal attributions of effort versus ability, Knowlton and
42 Mitchell (1980) found that when supervisors believed that performance was due to effort, they
43 made more extreme (positive or negative) performance evaluations. This is important because
44 managers' attributions about whether poor performance is due to internal or external reasons
45 influences the choice of action to address it. For example, managers responded negatively and
46 gave more criticism to employees when they believed performance to be within the employee's
47 control (Zhang, Reyna, & Huang, 2011). In experimental studies, supervisors took more severe
48 remedial action, targeted at the individual rather than the situation, when they made internal
49 attributions about poor performance (Green & Liden, 1980) and were more likely to make
50 recommendations for changing the work environment to improve performance (rather than
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3 focusing on ability or effort) when they made external attributions (Mitchell & Kalb, 1982).
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5 Supervisors were also more likely to follow company policy in how to deal with poor
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7 performance when they made internal performance attributions (Green & Liden, 1980).
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9 Although the abovementioned research focused on supervisors' attributions, other
10 research has adopted an employee-centric stance. Here, research has shown that employees'
11 responses to positive and negative feedback on their performance is determined by the
12 attributions that employees made for the feedback, and whether the source of the feedback is
13 seen as credible (Bannister, 1986). Other research has found that recipients of feedback are more
14 satisfied with the content, source and process of appraisal feedback when the feedback focused
15 on internal attributions, which are therefore within their control (Levy, Cawley, & Foti, 1998),
16 highlighting the self-serving bias. Likewise, Tolli and Schmidt (2008) found that employees
17 reacted more strongly to performance feedback when they made internal attributions about their
18 own performance; when making internal attributions, positive feedback enhanced self-efficacy
19 and goal revision, and negative feedback diminished these outcomes. Although, somewhat
20 counter to this, Taylor and Pierce (1999) found that individuals' attributions of blame for lower-
21 than-expected performance ratings (towards their supervisor, the organization, the system, or
22 themselves) had no significant impact on attitudinal outcomes. The role of the relationship
23 between supervisor and employee was reinforced in a study that showed that reactions to
24 feedback was moderated by the recipients' attributions for why the supervisor gave feedback,
25 and the attributions were influenced by the quality of prior relationships (Hempel, 2008).
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40 *Grievances and disciplinary decisions.*

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42 Internal versus external attributions have also been explored with respect to employee
43 grievances. For instance, in two field studies, Gordon and Bowlby (1989) found that individuals
44 were more likely to raise a grievance in response to negative events if they believed that the
45 grievance was due to their manager's personal disposition. Likewise, individuals who attributed
46 the cause of discrimination to their manager were more committed to make a legal claim about
47 the action (Groth, Goldman, Gilliland, & Bies, 2002). In a related practice, several studies have
48 applied attributions theories with respect to disciplinary decisions. For example, Trahan and
49 Steiner (1994), in examining disciplinary actions taken against poor performance, found that
50 nursing supervisors made more internal attributions for poor performance if they believed that
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3 incidents were more severe, and also if they believed the incident to be consistent with past
4 performance. This is important because, as found in experimental studies with undergraduate
5 students (Cole, 2008) and with HR practitioners and line managers (Klaas & Wheeler, 1990),
6 disciplinary decisions were impacted by whether the perceived reasons for disciplinary problems
7 were internal or external. Likewise, employees' satisfaction with their supervisor has been found
8 to relate to employee attributions of how supervisors made disciplinary decisions (Arvey, Davis,
9 & Nelson, 1984) indicating that attributions are an important explanation for how both parties
10 make judgements in the disciplinary process.
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20 *Selection and recruitment.*

21 We identified only a handful of studies examining attributions within the context of selection.
22 Tay, Ang and Van Dyne (2006) examined the moderating role of locus of causality attributions
23 on the relationship between interview success and subsequent self-efficacy for interviewing.
24 They found that successful interviewees had higher levels of interviewing self-efficacy when
25 they believed that their success was due to internal, versus external, factors. Also examining
26 locus of causality, Thompson, Sikora, Perrewé, and Ferris (2015) studied the attributions made
27 by overqualified job candidates. They found that candidates who made external-uncontrollable
28 attributions (being unemployed due to downsizing) for overqualification were viewed as a poorer
29 fit for the job and less employable by recruiters than candidates who made internal-controllable
30 attributions (greater work-life balance). In an experimental study, Tomlinson and Carnes (2015)
31 found that when job candidates were provided with an external reason for an employer missing
32 an interview appointment, they were more attracted to the organization compared to those who
33 were not provided with a rationale.
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44 In the context of recruitment, Carless and Waterworth's (2012) quasi-experimental study
45 revealed that experienced recruiters vary their expectations about applicants' future job
46 performance, responsibility for failure, and hiring recommendations according to applicant levels
47 of ability and effort. This supports earlier findings derived from experimental research carried
48 out with a student sample by Tucker and Rowe (1979); they found that hiring decisions were
49 influenced by causal attributions of past performance.
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Training.

We found very few studies on attributions in the context of training that met our selection criteria for this review. Using an experimental design, Quinones (1995) first asked students to perform a relatively complex task. Next, the participants were randomly assigned to either a remedial or advanced training group (which subjects believed was assigned due to their past performance on the task), and they were asked whether their assignment to either the remedial or advanced training group was a matter of luck, effort, task difficulty or ability – drawing on Weiner’s attributional theory. They found that, for those who were assigned to the advanced training program, ability attributions were more strongly related to pre-training self-efficacy, whereas the opposite was true for those in the remedial condition. They concluded that being assigned to a remedial training group was especially detrimental to self-efficacy when people made ability attributions.

Health and safety.

A small stream of research has examined the role of causal attributions in the field of occupational safety management. A comprehensive summary of this literature is provided in Gyekye’s (2010) review paper, so in this review, we identified only papers published after Gyekye’s review. Gyekye (2010) summarized research that shows a predominance of external attributions by subordinate employees (accident victims and perpetrators) and internal attributions by supervisors (e.g. DeJoy, 1990; Gyekye & Salminen, 2004; Kouabenan, Medina, Gilibert, & Bouzon, 2001). This echoes research on performance appraisals and grievances, and illustrates the actor-observer effect articulated by Heider (1958). Work in this area has since been developed by Mbaye and Kouabenan (2013), whose field study of two industrial companies found that both managers and employees made more internal than external attributions when they had positive perceptions of post-accident analyses.

Another finding of interest is the relationship between accident experience and causal attributions. Research has uncovered a positive correlation between external attributions and unsafe behavior, and a negative correlation between internal attributions and unsafe behavior (e.g. Gonçalves, da Silva, Lima, & Meliá, 2008; Laughery & Vaubel, 2003; Niza, Silva, & Lima, 2008). This is of relevance within other HR domains in that employees who do not take personal

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3 accountability for their actions (e.g. bankers during the recent economic crisis) may make
4 external attributions, and therefore may engage in riskier behavior in future.
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9 *Summary and directions for future research in FHRA.*

10 Attribution theories have underpinned various studies across FHRA that help scholars to
11 understand how managers and employees attribute their own and each other's' behaviors, as well
12 as work-related events. This area of research is mainly found in organizational psychology and
13 management, and tends to use experimental methods, rather than the field studies that
14 characterize most micro-HR research. This is problematic from an HR perspective given its
15 applied nature. Future research in FHRA should investigate dynamics in the field with
16 employees and managers to verify and extend these findings.
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23 We also note that most of the research has been carried out in performance appraisals and
24 occupational health and safety, whereas other functional areas such as selection and training have
25 far fewer studies that contribute to our understanding of dynamics in these areas. In addition to
26 building upon the functional areas identified in this review, future research should examine other
27 HR functions, for example how employees and managers make attributions in the context of
28 quality circles, work-life balance initiatives, employee monitoring, or assessment centers.
29 Although replication of social psychological studies in an applied setting lends ecological
30 validity to this area, research should go beyond mere replication of social psychological research
31 in an applied context.
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39 Another feature of this body of research is that it emphasizes the role of managers in the
40 attribution process. That includes insights about how managers' own attributions inform their
41 decision-making (e.g. Dugan, 1989; Klaas & Wheeler, 1990; Zhang et al., 2011) and how they
42 spillover to inform employees' attributions (e.g. Arvey et al., 1984; Groth et al., 2002). The field
43 of HR has been self-critical for neglecting line managers' responsibility in implementing HR
44 practices (e.g. Becker & Huselid, 2006; Khilji & Wang, 2006; Purcell & Hutchinson, 2007),
45 despite their key role in the HR-performance chain. Nevertheless, this body of research which we
46 label FHRA provides valuable insights into how managers influence the attributional process and
47 outcomes.
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Attributions of intent: HR attributions theory

Studies in the final cluster of research focus on employees' attributions of why HR practices – either individually or in bundles – exist. Much of this research is a fusion of Heider's (1958) attribution theory with Weiner's (1979) attributional theory as applied to the HR context. As such, this research suggests that the intent behind HR practices can be classified as either internal or external, but also, in alignment with Weiner's work, advances that there are subdivisions or content areas within internal and external attributions of intent.

The earliest work in this area was conducted by Koys (1988, 1991) who differentiated between employees' perceptions of internal intent (i.e. to attract and retain employees) and external intent (i.e. to comply with legislation) of HR activities. Koys (1991) found that managers reported higher levels of organizational commitment when they believed that HR practices were implemented for reasons of fairness, whereas legal compliance attributions had no significant relationship with commitment. The relevance of HR attributions to a specific HR practice, namely teamworking, was captured in a qualitative study by Bacon and Blyton (2005). Their analysis revealed that employees attribute teamworking to political, economic, institutional, or cultural factors. They found that economic and political rationales were viewed negatively because the former emphasizes manager self-interest, and the latter emphasizes shareholders above other stakeholders. Despite these earlier attempts to bring attribution of HR intent to the forefront of HR research, the stimulus that pushed research forward in this field was a study by Nishii et al. (2008), in which they set out HR attributions theory (HRA).

Nishii et al. (2008) proposed a model which categorizes HR attributions along three dimensions. The first, in line with Heider's original theory, suggests that employees make internal or external attributions about the intent of HR practices. Internal attributions are those that lie within an organization's control (to enhance commitment or enforce control) and external attributions are out of the organization's control (e.g. union or legal compliance). The second dimension focuses on individuals' perceptions of whether the intended outcomes of the HR practice affects employees positively (encourage wellbeing or performance) or negatively (exploit employees or drive down costs). The third dimension identifies the focus of the practice; attributions of wellbeing and exploitation focus on the individual, whereas attributions of performance or cost saving focus on the organization. External attributions are not expected to be

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3 significantly related to the latter two dimensions, because employees see it as outside the
4 organization's control.
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9 *Choice of Attributions of Organizational Intentions.*

10 In their initial theoretical development, Nishii et al. (2008) identified five explanations
11 that employees may make for why HR practices exist: (1) to enhance quality (performance); (2)
12 to improve employee wellbeing; (3) to exploit employees; (4) to reduce costs; and (5) to comply
13 with the union. The results of a confirmatory factor analysis showed that the first two attributions
14 loaded onto one factor, and the second two attributions loaded onto another factor. Hence, Nishii
15 et al. (2008) examined three attributions in their analyses, one that focused on job performance
16 and wellbeing (labelled 'commitment'), another on organizational costs and exploitation
17 ('control'), and a third on complying with union requirements.
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Researchers have drawn from these findings in different ways. For instance, Tandung (2016) replicated Nishii et al.'s findings by measuring each attribution, and then, via a factor analysis, confirmed the same factor structure. A different approach was taken by Fontinha et al. (2012) and D. Chen and Wang (2014); these authors combined items from Nishii et al.'s performance and wellbeing attributions to form a composite "commitment-focused" attribution, and did the same with exploitation and cost items to form a composite "control-focused" attribution measure. Still other researchers have chosen one scale from Nishii et al., rather than combining two. For instance, Shantz, Arevshatian, Alfes, and Bailey (2016) measured job performance and cost attributions, while excluding wellbeing, exploitation, and union motives altogether.

44 *Review of Empirical Research.*

45 We identified seven empirical studies which have explicitly tested Nishii et al.'s (2008) original
46 conceptualization, focusing almost exclusively on testing theoretical outcomes of HRA. It should
47 be noted that, much like the research on HR system strength, empirical research in this area is
48 primarily cross-sectional (the exception being Shantz et al.; 2016) so conclusions about causality
49 can only be tentative. In their original study, Nishii et al. found that commitment attributions
50 were positively related to commitment and satisfaction, whereas control attributions were
51 negatively related to these outcomes; union compliance was not significantly related to either
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3 employee attitude. This pattern of findings has been largely supported in later studies, with some
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5 nuances.

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7 Fontinha, José Chambel, and De Cuyper (2012) found that IT consultants who attributed
8 their outsourcing organization's HR practices as commitment-focused were more committed to
9 both the outsourcing organization and host organization; the opposite relationship was found for
10 control-focused attributions. This was replicated and extended by D. Chen and Wang (2014) who
11 found that perceived organizational support partially mediated the relationship between
12 commitment and control focused HRA with turnover intentions and supervisory-rated task
13 performance. Using data collected at two points in time, Shantz et al. (2016) found that when
14 employees perceived that their organization's HR practices were intended to improve their job
15 performance, they reported higher levels of job involvement and lower levels of emotional
16 exhaustion. Conversely, when they attributed their HR practices to a cost-reduction intent, they
17 experienced work overload which was related to higher levels of emotional exhaustion. Also
18 examining wellbeing outcomes, although through a cross-sectional design, Tandung (2016)
19 found that performance/wellbeing attributions were negatively related to turnover intentions,
20 whereas exploitation/cost reduction attributions were positively related to it; job satisfaction
21 mediated each relationship.
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33 Making use of a large secondary dataset from Ireland, Valizade, Ogbonnaya, Tregaskis,
34 and Forde (2016) conceptualized commitment-focused attributions as individuals' perceptions of
35 the strength of the relationship between employee participation practices and outcomes such as
36 job satisfaction (e.g., "to what extent do you find committees to be related to your job
37 satisfaction?"). They found that employee perceptions that participation practices lead to job
38 satisfaction was positively associated with several positive outcomes. Although this measure
39 captures individuals' beliefs about cause-and-effect relationships between participation practices
40 and employee job attitudes, it says little about to what employees attribute the participation
41 practices in the first place.
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49 These prior studies have almost exclusively focused on the higher order 'commitment-
50 focused' and 'control-focused' attributions. We were unable to find research that distinguished
51 between the focus of the attribution: employee (wellbeing or exploitation) or organization
52 (performance or cost saving). Although Van de Voorde and Beijer (2015) theoretically discussed
53 the difference between performance and wellbeing attributions, they operationalized
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3 performance attributions as employees' belief that HR practices are intended, "...to get the most
4 work out of employees". This is akin to Nishii and colleagues' exploitation attribution with a
5 focus on the employee, and not the organization.
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11 *Summary and directions for future research in HRA.*

12 Although only a relatively recent development, Nishii and colleagues' study has been
13 highly cited – garnering over 650 citations in the 9 years since it was published – but only a
14 small number of studies have empirically tested it. From these, there is broad support for the
15 theory in that commitment-focused attributions have generally been associated with positive
16 outcomes, and control-focused attributions with negative ones.
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21 There are several notable questions that remain unanswered. For instance, Nishii et al.'s
22 (2008) original study examined the role of external attributions, but this aspect has been
23 overlooked in subsequent studies. Examining external attributions is important because research
24 suggests that they are influential in predicting outcomes (Mitchell & Kalb, 1982). Future
25 research should consider external attributions beyond union or legal compliance, such as an
26 organization's desire to keep up with their competitors. However, the most important
27 recommendation is for researchers to measure the actual intentions behind the HR practices
28 (innovation, team-working, etc.) along with other plausible attributions in the context in which
29 the organization operates.
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37 We also note several questions about the role of mediators between HRA and outcomes.
38 For instance, while some studies (e.g. D. Chen & Wang, 2014) established the same mediator for
39 commitment and control attributions, Shantz et al. (2016) found different mediation mechanisms.
40 Likewise, prior studies have examined one mediator at a time so whether previously identified
41 mediators (e.g., job involvement, job satisfaction) are redundant or provide unique pathways to
42 outcomes is a question for future study.
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48 There is also a dearth of research on antecedents of HRA. Kelley (1973) suggested that
49 individuals' attributions are based on characteristics of the stimulus (i.e. the HR practice), the
50 context of the stimulus, and the person (i.e. individual differences). In the only study to examine
51 an antecedent of HRA, Van de Voorde and Beijer (2015) found that the extent of coverage of
52 high performance work practices predicted performance/exploitation and wellbeing attributions.
53 However, there are likely many other antecedents, including characteristics of the person, such as
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3 work experience (Mitchell & Kalb, 1982), or attributional tendencies (e.g. Chao, Cheung, & Wu,
4 2011; Martinko, Moss, Douglas, & Borkowski, 2007) or features of the organization itself, such
5 as its vision, structure or national culture (Chiang & Birtch, 2007).
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9 A final observation refers to the definition and measurement of HRA. For instance,
10 performance attributions were described and measured positively by Nishii et al. (2008) and
11 Shantz et al. (2016), yet negatively by Van de Voorde and Beijer (2015). Future research should
12 make clear how the theory and measurement of attributions fits within the constellation of
13 existing theory and measurement, as HRA research takes flight.
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19 **Clearing the paths**

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21 A central aim of this paper is to “clear the paths” between the three research streams – HRSS,
22 FHRA, and HRA – that have applied attribution theories in different ways to HR scholarship.
23 These three theories differ in several ways. First, they draw from different strands of attribution
24 theories, whereby HRSS has drawn primarily from Kelley, FHRA from Heider, and HRA from
25 Weiner. Second, they differ in the level of analysis. Whereas HRSS focuses on the
26 organizational level of analysis, FHRA tends to focus on between-person variability in
27 perceptions, and HRA has the capability to do both. They also differ in object, or the emphasis
28 on what causes an effect. HRSS focuses on the meta-features of HR practices, FHRA focuses on
29 the attributions made by managers and employees of one another and events, and HRA focuses
30 on employees’ attributions of the HR practices. Although there have been calls to bring some of
31 these theories together, most notably, HRSS and HRA (Ostroff & Bowen, 2016; Nishii et al.,
32 2008; Malik & Singh, 2014), there have been few attempts to articulate how the three
33 frameworks may interrelate. In this section, we make a preliminary attempt to explore some
34 pathways between the perspectives. In doing so, we make suggestions in the hope to inspire
35 future research to think creatively about finding synergies between and among them.
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48 In bringing two or more of these frameworks together in a synergistic model, researchers
49 should recognize several theoretical parameters. Firstly, HRSS must be conceptualized as it was
50 originally intended – as a shared perception of system strength at the unit or organizational level.
51 Should research continue to operationalize system strength at the individual-level of analysis,
52 then it must be based on homologous arguments between levels of analysis (G. Chen, Bliese, &
53 Mathieu, 2005). Secondly, a model should recognize that there is variability in how individuals
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3 perceive and respond to HR practices (Nishii & Wright, 2008), while at the same time
4 recognizing the possibility that shared perceptions can arise with sufficient within-unit
5 agreement.⁵ The second parameter implies the third: that a strong system can be either positive or
6 negative from the perspective of both employees and/or the organization, and that these may be
7 incompatible (Ehrnrooth & Björkman, 2012; Nishii, Lepak, & Schneider, 2008). We also suggest
8 that there are two notable omissions in HRSS and HRA which are evidenced in FHRA; the
9 content of HR practices is relatively neglected, and so is the role of the line manager. It is these
10 insights that we take from FHRA to inform our ideas on clearing pathways among the three
11 theories. Below we describe three possible pathways among these frameworks, thereby inspiring
12 research to examine FHRA in tandem with HRSS and/or HRA theories.
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Pathway 1: Synergies between HR System Strength and HR Attributions

22 Firstly, the relationship between HRSS and HRA might be interactive. For instance, group level
23 perceptions of system strength might interact with individual level HR attributions to explain
24 individuals' perceptions of HR practices. This possibility was implied by Nishii and colleagues
25 (2008) who suggested that although employees may agree about the climate (e.g. whether a
26 strong HR system exists) they may disagree about why HR practices are in place. Bowen and
27 Ostroff (2004) suggested that HRSS provides information to employees about which behaviors
28 are expected, accepted and rewarded by HR practices. In this way, a stronger HR system predicts
29 positive outcomes on the basis that HR practices are intended to be beneficial to the individual
30 and/or the organization. However, as Nishii and colleagues implied, it is possible for a strong
31 system to have positive or negative consequences, depending on the message that is conveyed.
32 An interaction between group-level perceptions of HRSS and individual-level HRA could
33 explain why individuals' perceptions vary from the intended messages conveyed by the practice.
34 For example, a strong HR system might positively predict organizational performance because it
35 clearly conveys information about desired behavior. However, some individuals within the
36 organization who believe that the HR practices are in place to exploit them might respond by
37 withholding performance. In this case, the HR system still predicts attitudinal outcomes, because
38 it is strong, but individuals respond in different ways based on their evaluation of the system.
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55 ⁵ Although Malik and Singh (2014) brought together HRSS and HRA in a theoretical framework to explain how
56 employees respond to talent management programs, their theoretical model failed to account for variation in
57 individual perceptions.
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3 A second possibility is that HRSS moderates the relationship between shared HRA and
4 group-level outcomes. Nishii et al. (2008) demonstrated that individual-level HRA predicted
5 organizational commitment which, when shared, is associated with unit-level helping behavior
6 and customer satisfaction. Although not addressed by Nishii and colleagues, it is also
7 theoretically and empirically plausible that individuals' attributions can also be shared, to form
8 collective attributions which therefore explain group-level outcomes (Martinko et al., 2011).
9 Drawing on HRSS theory, which explains the consistency in how practices are perceived within
10 groups, this suggests that system strength moderates the relationship between shared HRA and
11 collective attitudinal and behavioral responses, such that this relationship is stronger under a
12 strong system. In other words, this model would explain consistency in reactions to HR
13 practices.
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23 These are only two possible theoretical models among many that can be explored to bring
24 these two theories together. However, any model that identifies this synergy will share common
25 features. For instance, these models recognize that HRSS and HRA operate on different levels so
26 any relationship between the two constructs requires cross-level relationships between individual
27 and group. Likewise, the two processes proposed above explain, respectively, consistency and
28 variability in how individuals respond to HR practices. It may therefore be possible that these
29 two cross-level interactions occur simultaneously.
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35 In bringing HRA and HRSS together, there is also an opportunity for researchers to
36 identify a potential 'dark' side of HRSS. Although Ostroff and Bowen (2016) stated that their
37 model is intended to be strategy-specific (e.g. practices driving a strategy for innovation, or for
38 safety), their work sidelines the reality that in some cases, strong systems can be perceived by
39 employees as controlling, thereby predicting negative employee outcomes. For instance, Gilbert
40 et al. (2015) suggested that in the case of a strong system, individuals might attribute an
41 exploitative intent for the practice. They proposed that a strong system could undermine line
42 managers' sense of autonomy (and therefore intrinsic motivation), and be seen as a demand, with
43 negative consequences. Likewise, Ehrnrooth and Bjorkman (2012) suggested that when HR
44 systems are working 'well' (i.e. strongly) they promote work intensification. In their empirical
45 study, they found that HRSS indirectly predicted higher workload via empowerment. A strong
46 system overall might therefore have beneficial implications for some employees, and not others,
47 allowing the possibility to incorporate other HR theories about strategic fit (e.g. Lepak & Snell,
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3 1999; Schneider, Goldstein & Smith 1995). This is a fruitful line of enquiry that requires further
4 investigation.
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8 ***Pathway 2: Process attributions relating to specific HR functions***

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10 Most research has adopted the frameworks of HRSS and HRA as intended, in that they examine
11 attributional processes relating to the HR system as a whole (Bowen & Ostroff, 2004; Nishii et
12 al., 2008). Although this strategic, system-level perspective explains how individuals process
13 information about the HR system, it fails to offer insight about the design or implementation of
14 individual practices (Piening et al., 2014). For example, common measures examining the HR
15 system, or bundles of HR practices, simply take the average of employees' views of whether
16 several HR practices are in place (e.g. "training is provided to employees regularly"; Den Hartog
17 et al., 2013) or if employees are satisfied with them ("Is my performance appraisal fair and
18 accurate?"; Alfes, Shantz, & Truss, 2012). This assumes that employees view HR practices in the
19 same way when, in fact, not all employees are privy to all HR practices, and/or employees may
20 view, for example, selection practices quite differently than appraisal. Indeed, there is empirical
21 evidence to suggest that there is within-person variability in how employees view individual HR
22 practices (e.g. Kinnie, Hutchinson, Purcell, Rayton, & Swart, 2005).
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33 Here we see the potential for synergy between FHRA – which has provided insight about
34 attributions related to specific characteristics of individual HR functions – and HRSS and HRA,
35 which explain how and why individuals make attributions about HR practices. Whereas past
36 HRA research has averaged employees' attributions of several HR practices (performance
37 appraisal, development opportunities etc.), future research could untangle the HR practices to
38 allow for variability in the attributions that individuals make about specific practices (e.g. "I
39 believe that the reward policy is to cut costs, but that training practices are to help me to perform
40 to my best"). Doing so enables a more detailed examination of how attributions interact between
41 practices. For example, if competitive rewards predict negative behavioral attributions towards
42 teammates (Ferrin & Dirks, 2003), might this be mitigated by training and development believed
43 to foster team cohesion? Although it was possible to examine interactions between attributions in
44 most of the studies we reviewed given their approaches to measurement, it has yet to be explored
45 in research.
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56 Likewise, by focusing on the content of HR practices, as in FHRA research, it is possible
57 to provide more nuance about how individuals make specific HR attributions about individual
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3 practices. In the context of recruitment, for instance, future research might examine the
4 attributions job seekers make of corporate social responsibility initiatives that feature in many
5 job advertisements. Organizations that promote their socially responsible practices may be
6 perceived positively or cynically by job seekers. These perceptions may be influenced by job
7 seekers' perceptions of its distinctiveness (whether it features heavily in the job description),
8 consensus (whether the company is known for being socially responsible), and consistency
9 (whether the organization has a history of being involved in the community). This is aligned with
10 research that shows that attributions matter in this context; Gatignon-Turnau and Mignonac
11 (2015) found that public relations attributions undermine the positive relationship between
12 employee perceptions of the corporate volunteering program and their perceptions of the
13 organization's prosocial identity.
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23 Future research should also investigate other specific HR practices. Malik and Singh
24 (2014) made a start in their development of a theoretical model of attributions in the context of
25 talent management. In line with the self-serving bias, they theorized that individuals selected into
26 talent management programs attribute the organization's motives for the program differently
27 from unselected employees. Future research is needed to test and extend their model. Other HR
28 practices that have yet to be investigated include elements of job design, including job rotation
29 and international assignments. Family-friendly workplace practices may also exert different
30 effects depending on whether employees attribute them to internal (the company cares about its
31 employees) versus external (the company is audited for gender balance) reasons. This potential
32 synergy between attributions relating to process (HRA and HRSS) and those focused on content
33 (FHRA) could therefore explain more about the relationship between the implementation of HR
34 practices and employees' perceptions, which is sorely needed (Piening et al., 2014).
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44 To facilitate this future research, scholars need to move away from the general measures
45 used in prior studies. We suggest that future research considers in more detail the characteristics
46 of the implemented HR practices in the sample organization, which would allow a more fine-
47 grained look at specific HR practices. For instance, rather than asking about training in general,
48 questions could be asked about specific type and content of training programs that are offered in
49 the organization.
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Pathway 3: The role of managers in forming HR attributions

Managers play an important part in implementing HR practices (Purcell & Hutchinson, 2007), and there is evidence that manager perceptions of practices influence those of their employees (Den Hartog, Boon, Verburg, & Croon, 2013). The role of line managers in HRSS has been positioned differently by scholars. In its original conception, HRSS recognizes managers in part through the concept of consensus among key decision-makers. Alternatively, Gilbert and colleagues (2015) suggested that a strong HR system precedes line manager behavior, rather than being partly indicative of it. In HRA there is no explicit recognition of the role of managers, although it is likely that managers play an important role in shaping the messages provided by the HR practices to inform attributions of intent (Piening et al., 2014). However, neither theory explicitly discusses the role of manager behaviors or attitudes in the HR attributional process. We therefore suggest that there are several ways in which future research, drawing on the FHRA perspective, could integrate line managers more comprehensively into the attributional process.

First, we know from FHRA research that the framing of HR practices – for example in Quinones’s (1995) research presenting a training intervention as development or remedial – influences individuals’ attributions and responses to HR practices (see also Cole, 2008). Line managers play an important part in whether HR practices are in fact implemented, and the quality of their implementation (Guest & Bos-Nehles, 2013; Woodrow & Guest, 2014). As part of this, the way that they communicate HR practices to employees informs the signals provided by the practices (Alvesson & Kärreman, 2007; Den Hartog et al., 2013). Therefore, it stands to reason that the message of intent communicated by managers influences employees’ perceptions of the reason for said practice (HRA), and that this would be particularly the case when communication was consistent (HRSS). Line managers also make idiosyncratic attributions of HR practices which likely differ from, and precede, their employees’ attributions of the same HR practice, thus implying that managers’ attributions of HR practices spill over and influence employees’ attributions. This step in the process between line manager implementation and employee reactions to HR practices has yet to be recognized, but is supported by evidence that managers’ attributions influence the attitudes and behaviors of their employees (e.g. Knowlton & Mitchell, 1980). Future research should therefore examine the relationship and potential spillover of line manager to employee attributions of individual and bundled HR practices.

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3 Likewise, there is some evidence that individuals' attributions of intent are influenced by
4 their evaluations (i.e. fairness, positive appraisals) of both their manager and HR practices. For
5 example, Greenberg (2003) found that when performance-pay practices were particularly salient
6 (i.e. strong), individuals were more likely to attribute fairness to the practice, rather than their
7 manager. This was supported by Krosgaard and colleagues (2002), who found that employees
8 were less likely to attribute negative encounters to their manager when HR practices themselves
9 were perceived to be unfair. This suggests that manager behaviors and HR practices go hand in
10 hand in influencing individuals' attributions of said practices. A synergistic model of HR
11 attributions could therefore recognize both the strength of the system, and the attributions of
12 intent that the manager communicates in shaping individuals' own attributions, attitudes and
13 behaviors in response to the practice.
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24 *Methodological issues*

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26 There are some significant limitations regarding the methods employed in prior studies across
27 the three domains of research we identified. One obvious finding is the dominance of survey and
28 experimental methods of design over qualitative ones. Qualitative research can be employed to
29 produce rich insights into the nature of relationships between the various constructs of interest,
30 as well as to investigate the influences of wider social, political, and economic factors. Questions
31 requiring a qualitative methodology that will develop research in this area include: What is the
32 nature of the interplay between perceptions of HR practices and attributions? How does the
33 relationship between individual HR attributions and shared perceptions of HR systems lead to
34 desired outcomes? What configurations of attributions are associated with strong or weak HR
35 practices? What is the role of different levels of managers (senior versus line) in influencing
36 employee attributions and how do these interact with managers' role in promoting strong HR
37 practices?
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48 Turning to quantitative research, consistent with common criticisms of research on the
49 HR–performance link (Paauwe, 2009; Wright & Ulrich, 2017), most of the studies highlighted in
50 our review are cross-sectional. This is particularly the case for research under the auspices of
51 HRSS and HRA. While this research is largely field-based and is therefore ecologically valid, its
52 cross-sectional nature raises concerns about causal ordering between antecedents and outcomes.
53 FHRA research, on the other hand, shows significant strengths in testing causal models in that it
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3 is based largely on experimental data. However, much of this research was conducted in a
4 laboratory, so the extent to which the findings generalize to “the real world” remains unclear.
5 Likewise, the reliance on self-reported data also raises concerns related to response biases such
6 as social desirability and common-method bias (Podsakoff, MacKenzie, & Podsakoff, 2012).
7 Although a sub-section of this body of research has sought self-reported data from multiple
8 sources (e.g. manager and employees), there is arguably a wealth of objective data available
9 which could verify and extend research in this area.
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15 We therefore suggest that future research would benefit from more methodological rigor.
16 In particular, longitudinal field-research and field experiments would provide a more robust test
17 of causal chains, and fit more closely with Weiner’s (1979; 1985) conceptualization that
18 attributions are time dependent in that they are predicted to occur after the event of observation.
19 Likewise, the two distinct quantitative approaches – field-based surveys and lab-based
20 experiments – could learn from each other. Field-based experiments would enable scholars to
21 test causal links and therefore help develop these theoretical domains. Qualitative research would
22 likewise enable further development of attribution theory as applied to HR scholarship, which
23 despite high numbers of citations of some seminal studies (Bowen & Ostroff, 2004; Nishii et al.,
24 2008), still requires empirical refinement
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35 **Concluding remarks**

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37 This paper synthesizes and draws insights from HR research that has been informed by
38 attribution theories developed in social psychology. An analysis of 65 papers revealed that
39 attribution theories have much to say about HR-related issues. Through our review, we make
40 several important contributions to HR scholarly work. First, we highlight three streams of
41 research that are rooted in different strands of attribution theories – HR system strength (HRSS),
42 functional HR attributions (FHRA) and HR attributions theory (HRA). Although attributions
43 theories are a mainstay of social psychology, with a deep and rich history, they have only
44 recently been fully leveraged by HR scholars. Even those well versed in HR theory are likely
45 confused by different uses of attribution theories in HR research, and so this paper clarifies the
46 history and explains the variety in the approaches used in HR scholarship. Second, like other
47 review papers, it is only through bringing together extant literature that we can see patterns of
48 findings and omissions of work that can direct future research. For each stream of research, we
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3 identified several future directions for research, and provided suggestions regarding
4 methodology and other research choices. Some of our ideas for “what’s next?” within each
5 stream are summarized in the top half of Table 2. Third, our synthesis revealed that, despite their
6 shared theoretical foundations, the three research streams rarely inform or inspire one another.
7 We highlight several theoretical propositions and future research questions that may help to
8 “clear the paths” among these currently disparate bodies of research. We have discussed
9 potential avenues for future research throughout our review, and inspired by this we also provide
10 some potential research questions and methodological considerations in the bottom half of Table
11 2. These all arise directly from our review and, although Table 2 does not provide an exhaustive
12 list, we hope these questions stimulate future research to explore and expand on our proposed
13 pathways.
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26 Finally, this review has several implications for practice, both with respect to how
27 attributions are formed and the outcomes of these attributions. Firstly, attributions-based
28 perspectives suggest that strategic HR leaders must ensure that they have a clear picture of what
29 the constellation of HR practices are intended to achieve, and whether the message that they
30 convey is “strong” and therefore clearly understood. This means that HR leaders need to
31 understand how the system of HR practices is interpreted by both line managers who implement
32 them, and employees as end-users, because intentions do not necessarily translate as anticipated.
33 In practice, this requires a clear communication plan to ensure that consistent messages about the
34 purpose of policies and procedures are received by line managers, and therefore relayed to
35 employees through implementation. If there is misalignment between strategic intentions and
36 how practices are interpreted, then HR leaders would be wise to investigate line manager and
37 employee attributions for HR practices – asking “why do you think these HR practices exist in
38 the first place?” Furthermore, we know that how HR practices are perceived is likely to predict
39 different responses from employees. This further contributes to the need to train managers in
40 how to frame conversations about HR practices, to ensure that messages are consistent both with
41 the intention of the practice, and framed in ways to engender positive attitudes. Likewise, the
42 evidence that attributions can cause biases in decision-making from the manager’s perspective
43 implies the need to train line managers in the impact of these biases. This is to ensure that
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3 managers get a “complete” picture on which to base people-related decisions. Together, our
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5 conclusions and suggestions for future research therefore have implications both for scholarship
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7 and for practice. We hope that this review inspires new avenues of research on HR-related
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9 attributions, which have far reaching implications for the design and implementation of HR
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11 practices, and the impact of practices on individuals and organizations.
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Table 1: Categorization of studies included in review

Study	Method ^b	Country of Data Collection	HR practice	Antecedents	Outcome Variables ^c		
					Attitudes	Behaviors	Others
HR System Strength							
Aksoy & Bayazit (2014)	survey - cross sec	Turkey	Management by objectives				Quality & strength of goal climate
Baluch (2017)	qual - interviews	UK	HR system				
Bednall, Sanders & Runhaar (2014)	survey - repeated	Netherlands	Performance management and learning			Participation in informal learning activities	
Delmotte, De Winne & Sels (2012)	survey - cross sec	Belgium			Satisfaction with HR practices	Performance	
Frenkel, Li & Restubog (2012)	survey - cross sec	China	HR system		Justice Negative affect	Emotional exhaustion	
Gilbert, De Winne & Sels (2015)	survey - cross sec	Belgium	HR system		Line manager ability, motivation and opportunity HRM implementation perceptions of employee		
Guerci & Pedrini (2014)	survey - cross sec	Italy	Sustainable HR				
Guest & Conway (2011)	survey - cross sec	UK	HR system			Performance	
Hauff, Alewell & Hansen (2016)	survey - cross sec	Germany	HR system				Achievement of HR targets (relating to employee attitudes and availability of people resources)

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Li, Frenkel & Sanders (2011)	survey - cross sec	China	HR system		Work satisfaction Intention to quit	Vigor	
Liden & Mitchell (1985)	experiment	USA	Performance feedback		Satisfaction with performance feedback		
Pereira & Gomes (2012)	survey - cross sec	Portugal ^a	HR system				Org climate Org performance
Stanton, Young, Bartram & Leggat (2010)	qual - interviews	Australia	HR system	CEO role			
De Winne, Delmotte, Gilbert & Sels (2013)	survey - cross sec	Belgium	HR system				Ulrich's HR roles HR dept effectiveness
Marchington, Rubery & Grimshaw (2011)	survey - cross sec	UK	HR system				
Piening, Baluch & Ridder (2014)	qual - interviews	Germany	HR system	Perceptions of intended and implemented practices Employee expectations of practices			
Sanders, Dorenbosch & de Reuver (2008)	survey - cross sec	Netherlands	HR system		Affective commitment		
Functional HR Attributions							
Arvey, Davis & Nelson (1984)	survey - cross sec	USA	Disciplinary decisions	Demographics of employee	Satisfaction with supervisor		
Bannister (1986)	experiment	USA	Performance feedback				Assessment of feedback received

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3	Carless & Waterworth	quasi-exp - cross	Australia	Recruitment &				expectations of
4	(2012)	sec		selection				future job
5								performance;
6								perceived level of
7								responsibility for
8								failure; hiring
9								recommendations
10								
11	Chiang & Birtch (2007)	survey - cross sec	UK, China,	Performance	National culture			
12			Canada, Finland					
13								
14								
15	Cole (2008)	experiment	Canada ^a	Disciplinary				Fairness
16				decisions				perceptions
17	Dugan (1989)	experiment	USA ^a	Performance	Manager's prior			
18				evaluation	attributions			
19	Ferrin & Dirks (2003)	survey - cross sec	USA	Perf-related	Rewards	Interpersonal trust		
20				incentives				
21								
22	Gordon & Bowlby	quasi-exp - cross	Not stated	Grievance filing			Intent to file	
23	(1989)	sec					grievance	
24	Green & Liden (1980)	experiment	USA	Performance				Performance
25				evaluation				improvement
26								actions
27	Greenberg (2003)	survey - repeated	USA	Performance-	Pay-performance			
28				related	link			
29				incentives				
30								
31	Groth, Goldman &	survey - cross sec	USA	Grievance filing	Commitment to		Legal claiming	
32	Gilliland (2002)				legal claiming		commitment	
33	Hempel (2008)	experiment	China	Performance				Positive affect
34				feedback				
35	Igbaria & Baroudi (1995)	survey - cross sec	USA	Performance	Gender		Career advancement	
36				evaluation	Performance		prospects	
37					evaluation			
38	Johnston & Kim (1994)	survey - cross sec;	USA ^a	Performance				Expectancy change
39		experiment; field		evaluation				
40		experiment						
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Kaplan & Reckers (1993)	experiment	USA ^a	Performance evaluation			End-of-job performance evaluations
Klaas & Wheeler (1990)	experiment	USA ^a	Disciplinary decisions			Disciplinary decision taken
Knowlton & Mitchell (1980)	experiment	USA	Performance evaluation			Performance evaluation
Korsgaard, Brodt & Whitener (2002)	survey - cross sec	USA	Manager behaviors relating to HR practices	Manager trustworthy behaviour Fairness of HR policies	Trust in manager	OCB
Levy, Cawley & Foti (1998)	experiment; survey - repeated	USA	Performance evaluation		Satisfaction with appraisal feedback, source, and process	
Mayo & Mallin (2010)	survey - cross sec	USA ^a	Performance evaluation	Resources, tenure		
Mbaye & Kouabenan (2013)	survey - cross sec	France	Accident analysis		Commitment to accident analysis	explanations for accidents
Miller & Werner (2005)	experiment	USA ^a	Performance evaluation			Task performance, coworker's contextual performance
Mitchell & Kalb (1982)	experiment; qual - interviews	USA	Performance evaluation	Supervisor experience		Performance improvement actions
Mowen, Keith, Brown & Jackson (1985)	experiment	USA	Performance evaluation			Performance
Quinones (1995)	experiment	USA	Training effectiveness		Self-efficacy	

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3	Raemdonck & Strijbos	quasi-exp - cross	Netherlands	Performance	Education level			
4	(2013)	sec		feedback	Age			
5					Feedback content			
6					Sender status			
7					Sender			
8					performance			
9					appraisal			
10								
11	Struthers, Weiner &	experiment	USA	Performance				Type of personnel
12	Allred (1998)			management				decision taken
13	Tay, Ang & Van Dyne	survey - repeated	Singapore	Recruitment &		Self-efficacy		
14	(2006)			selection				
15	Taylor & Pierce (1999)	survey - repeated	New Zealand	Performance				
16				evaluation				
17	Tomlinson & Carnes	experiment	USA	Recruitment &	Employee's	Perceptions of		
18	(2015)			selection	previous	behavioural integrity		
19					hypocritical			
20					behaviour			
21					Manager's			
22					explanation for			
23					broken promise			
24								
25	Thompson, Sikora,	experiment	USA	Recruitment &		Perceptions of	Employability	
26	Perrewé & Ferris (2015)			selection		person-environment		
27						fit		
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33	Trahan & Steiner (1994)	qual - interviews;	USA ^a	Disciplinary				Disciplinary
34		q'aires		decisions				decision taken
35								
36	Tucker & Rowe (1979)	experiment	Canada	Hiring decisions	Expectancy			
37					(based on letter of			
38					reference)			
39								
40	Tolli & Schmidt (2008)	experiment	USA	Performance		Self-efficacy	Goal-setting	
41				feedback				
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Wiswell and Lawrence (1994)	experiment	USA ^a	Training in feedback skills				Feedback skills
Zhang, Reyna & Huang (2011)	survey - cross sec	China	Performance evaluation		Affective responses	Constructive criticism	
Attributions of intent: HR attributions theory							
Bacon & Blyton (2005)	qual - interviews	UK	Teamworking			General perceptions	
Chen & Wang (2014)	survey - cross sec	China	HR system			POS Turnover intent	Task performance
De Stobbeleir, Ashford & de Luque (2010)	experiment	USA	Performance evaluation	Performance history, employee characteristics			Manager evaluations
Fontinha, Chambel & De Cuyper (2012)	survey - cross sec	Portugal	HR system			Affective commitment (to own organisation and client organisation)	
Johnson, Erez, Kiker & Motowidlo (2002)	experiment	USA	Performance evaluation				Performance rating
Khan & Tang (2016)	qual - interviews; survey – cross sec	China	HR Analytics			Affective commitment	
Koys (1991)	survey - cross sec	USA	HR system			Job satisfaction Org commitment	Length of service
Nishii, Lepak & Schneider (2008)	survey - cross sec	USA	HR system			Unit level (aggregate): Commitment Satisfaction	Unit level OCBs Unit performance (customer satisfaction)
Shantz, Arevshatian, Alfes & Bailey (2016)	survey - repeated	UK	HR system			Work overload Job involvement	Emotional exhaustion
Tandung (2016)	survey - cross sec	Netherlands	HR system			Job satisfaction	Turnover

1 2 3 4 5 6 7 8	Valizade, Ogbonnaya, Tregaskis & Forde (2016)	survey - cross sec	Ireland	Employee relations		Job satisfaction Org commitment Union instrumentality (effectiveness) ER climate	
9 10 11 12 13 14	Van de Voorde & Beijer (2015)	survey - cross sec	Netherlands	HR system	Extent of coverage of high- perf work system practices	Commitment Job strain	

Notes:

^a Authors were contacted as the information in the paper was inconclusive. If no information was available but the authors were all from one country we assumed data originated from that country

^b Qual = qualitative design; cross sec = cross-sectional design; repeated = repeated measures design; quasi-exp = quasi-experimental design

^c POS = perceived organizational support; OCB = organizational citizenship behavior; CWB = counterproductive work behavior

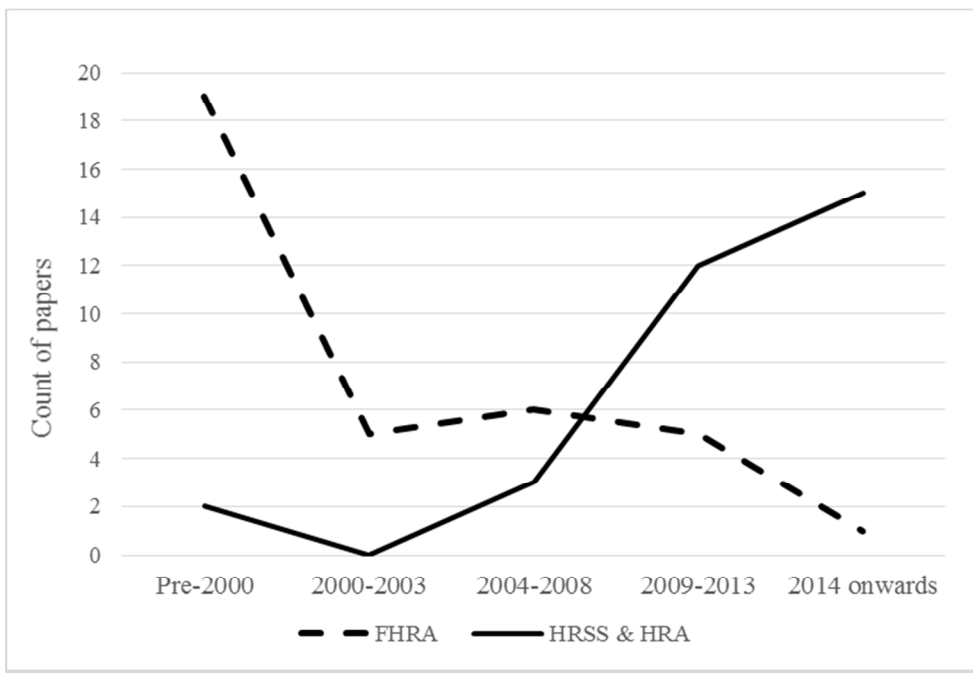
Table 2: Suggestions for future research

Research focus	Suggested research questions	Selected methodological and other choices
<i>Within Stream</i>		
HR System Strength (HRSS)	<ul style="list-style-type: none"> (How) does organizational culture mediate the relationship between HRSS and desirable outcomes? Can HRSS be ‘too strong’? Is there a ‘dark’ side to HRSS? Under what conditions do consistency, consensus and distinctiveness lead to a shared sense of what the organization values and rewards? 	<ul style="list-style-type: none"> Multi-level and mixed methods to study culture Experimental studies to examine the conditions of shared perceptions See Ostroff & Bowen (2016) for more suggestions for future research
Functional HR Attributions (FHRA)	<ul style="list-style-type: none"> How might attribution theories help us to explain dynamics in other specific HR functional areas (e.g. work-life balance initiatives, quality circles, and employee monitoring)? How do attributions of HR practices change over time? Are there certain sequential activities of specific HR practices which might predict attributions (e.g. annual performance appraisal)? 	<ul style="list-style-type: none"> Field studies, including survey methodology, to strengthen ecological validity Capitalize on natural events by conducting field experiments Extend attribution theories, rather than merely apply them
HR Attributions (HRA)	<ul style="list-style-type: none"> What mediates the relationship between HR attributions and employee outcomes? What leads to HR attributions? Do some external attributions matter more than internal ones? 	<ul style="list-style-type: none"> When designing scales for survey research, include the attribution of what the sample organization intends (what is their actual strategic focus)? Ensure consistency in measurement of attributions Qualitative research to explore attributions specific to different contexts and organizations
<i>Pathways</i>		
Pathway 1 – Synergies between HR System Strength and HR Attributions	<ul style="list-style-type: none"> (How) do group level HRSS interact with individual HRA to explain individuals’ perceptions of HR practices? Do shared HRA predict group-level outcomes, and is this moderated by HRSS? Are these processes simultaneous, explaining both group and individual outcomes? 	<ul style="list-style-type: none"> Multi-level and mixed methods to capture within and between group effects Longitudinal survey methods to test causality Qualitative research to explore how processes unfold
Pathway 2 – Process attributions relating to specific HR functions	<ul style="list-style-type: none"> How do individuals’ HRA across different HR practices interact? (for example, can positive attributions about talent management policies mitigate against negative attributions of performance appraisal?) How do attributions of specific HR practices influence individuals’ attributions of the practice in general? 	<ul style="list-style-type: none"> Multi-level methods to capture perceptions nested within practices Measurement scales to allow for more detailed examination of attributions related to specific practices, or different aspects of practices

	<ul style="list-style-type: none"> Does the strength of specific HR practices have a greater influence on overall impressions of HR system strength? 	
<p>Pathway 3 – <i>The role of managers in forming HR attributions</i></p>	<ul style="list-style-type: none"> Do managers' attributions spillover to employees' attributions? What moderates this process? Is consensus of HR attributions amongst decision-makers (e.g. line managers, HR professionals, senior managers) necessary for a system to be strong? To what extent do individuals' attributions about HR practices shape manager behaviors? 	<ul style="list-style-type: none"> Multi-level methods to capture simultaneous employee–manager and manager–employee spillover of attributions Qualitative research to explore the role of different decision-makers in shaping perceptions of consensus

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Figure 1. Summary of papers applying attributions theories to HR domain



Note: FHRA = Functional HR Attributions; HRSS = HR system strength; HRA = HR attributions theory.

Graph based on count of papers from Table 1.

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