It takes two to salsa: The interplay between HR systems and leadership attachment styles for employee creativity and innovation

Human resource (HR) management sees people as one of the main sources of firms’ competitive advantage, and it examines the role of different employee groups as well as the approaches in managing them (Purcell, 1999). In line with the devolution-to-the-line perspective in HR (Perry & Kulik, 2008), the role of immediate supervisors is becoming increasingly important for work performance, with respect to shaping the context of work and immediately influencing it. However, it remains to be asserted how various leadership approaches act within the higher context of HR. The existing literature fails to clearly answer how leadership interacts with HR, which should act as a top-down catalyst or a co-creator of how employees perceive their relationships with their supervisors (Gustafsson, Abbey, & Hope Hailey, 2016) and what the outcomes of such interactions are.

The aim of this paper is to bring together literature on strategic HR management and leadership in order to develop and test hypotheses about the cross-level interactive role of attachment styles that employees perceive to have developed with leaders (Hinojosa, Davis McCauley, Randolph-Seng, & Gardner, 2014) and HR systems (cf. Lepak & Snell, 2002) in influencing desirable outcomes, specifically the employee innovation processes at the individual level. The importance of HR systems as a contextual top-down catalyst for innovation has only recently gained momentum in the extant literature (Zhou, Hong, & Liu, 2013). Similar is true for attachment styles (i.e., relational schemas that correspond to strategies of affect regulation that result from different patterns of interactions that followers possess with their supervisors), which are lately becoming increasingly investigated in the leadership literature (Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007).

We narrow in on two opposite HR systems in organizations (compliance and commitment) and three leadership attachment styles perceived by the employees (secure, anxious, and avoidant) to propose that their cross-level interactions have different roles in predicting two different elements of employees’ innovative work behavior: idea generation (creativity) and idea implementation (innovation) behaviors (cf. Baer, 2012), respectively.

Based on the HR, leadership and creativity/innovation literature we develop and empirically assess six hypotheses:

H1: The levels of creativity will be higher in commitment vs. compliance HR system.
H2: The levels of creativity will be higher in secure vs. insecure (avoidant or anxious) attachment style.
H3: The interaction between HR systems and attachment styles predicts creativity.
H4: The levels of innovation will be higher in compliance vs. commitment HR system.
H5: The levels of innovation will be higher in secure vs. insecure (avoidant or anxious) attachment style.
H6: The interaction between HR systems and attachment styles predicts innovation.
The interrelationships among our key variables are presented in the above model (Figure 1) and are tested in two studies: a field study among 343 Slovenian employees nested into 43 units (pertaining to three firms in the IT, domestic equipment production and sales, and energy/electricity industries), and an experimental study among 164 undergraduate students in a European university, where we applied a three-by-two between-subjects factorial design and manipulated both attachment styles perceptions (secure, anxious, avoidant) as well as the contextual role of the HR systems (commitment, compliance) using a vignette-based scenario task.

The results of both studies supported a positive direct relationship between commitment HR system and creativity, and compliance HR system and innovation. Neither the direct effect of secure attachment style, nor the interaction effect of attachment styles and HR systems predicted creativity, but they did significantly predict innovation.

We contribute to the body of literature placed at the intersection between leadership and HRM in three ways. Firstly, we go beyond traditional leadership-for-creativity research by narrowing in on attachment styles as predictors of the micro-innovation stages, which enables us to look at the dyadic relationships between leaders and others by accounting for interpersonal premises about oneself and others at the same time (Popper, Mayselless, & Castelnuovo, 2000). Secondly, the investigation of HR systems within the proposed interplay with followers’
perceptions of leadership attachment styles represents an important addition to the extant literature that has thus far examined HPWS, specific functional HR practices, or commitment-based HR (Chuang, Jackson, & Jiang, 2016; Klaas, Semadeni, Klimchak, & Ward, 2012) as predictors of either creativity or innovation. Thirdly, based on the notion described above, we derive from the most recent findings of the micro innovation literature that idea generation entails crucially different characteristics than idea implementation (Baer, 2012) and examine each of these facets separately.

References


PLAYFUL LEADERS: THE BALANCE BETWEEN CREATIVE DEVIANCE VS. CONFORMITY

The complexity and dynamics of modern organizational environments demands that organizations foster creative performance, by encouraging the generation of novel ideas and solutions. Creativity involves taking risks and “thinking out of the box”. However, at the same time, much organizational effort is directed at maintaining a solid structure, making good use of organizational resources, refraining from unwarranted risks and making sure novel ideas can be implemented. This paradoxical tension is held by managers, who have a significant role in encouraging creativity by enabling employees to have the autonomy to explore, experiment and act in a creative manner, while at the same time to monitor employees actions, in an attempt to make sure that time is used efficiently and that creative endeavors are managed well in ways that minimize waste, limit errors and enable the expected work to be performed. In the current paper we focus on a novel construct, leaders’ playfulness (Kark, 2011; Mainemelis & Dionsiou, in press; Mainemelis & Ronson, 2006) in order to explore this paradoxical tension, in an attempt to understand how leaders’ playfulness, will allow for creative deviance and limit employees conformity. Creative deviance is manifested in situations in which following a manager’s rejection of a new idea, employees may engage in pursuing the rejected new idea in direct violation of their manager’s instruction to stop working on it (Mainemelis, 2010). This dynamic may in turn effect followers’ inner emotional experience in terms of thriving, when involved on creative device, versus boredom, when conforming, as well as their performance as manifested in creative versus mundane performance.

Methods: The study was based on a multi-sourced, three-waved field data from 503 leader-employee dyads in two advertising companies in South China. These two companies have similar business structures and the participants have similar work tasks (e.g., graphic design and brand advertising). Data were collected in three rounds with one or two month intervals. At Time 1 (T1), 620 employees assessed their immediate supervisors' playfulness while 249 supervisors
responded the measure of time pressure over the past one month. Both employees and their supervisors reported their demographic information in this survey. One month later, we conducted Time 2 (T2) survey. In Time 2, employees were asked to rate their compliance behavior, and supervisors were asked to rate their subordinates' creative deviance over the past one month. Two months later we conducted the final survey (T3). The supervisors rated the subordinates' creative performance and mundane performance. Employees were asked to rate their feeling of job boredom and thriving at work. We used an online survey system to build panels with embedded information to match participants’ data while keeping the respondents anonymous.

After deleting unmatched data across three time waves, we obtained final data from 503 dyads of employees and their supervisors, with a response rate of 81.1% among employees and 85.1% among supervisors. These high response rates were achieved due to the strong administrative support from the company.

**Measures:** *Playfulness.* Measures of playfulness were developed for this study. We generated five items using the definitions of the constructs of playfulness. An example item was, “My manager encourages me to take time to play with ideas at work.

*Time pressure.* We adopted 4-Item scale from Amabile et al. (1996) in this study. The target in each item was changed to the “rejected ideas”. The illustrative item were, “We don’t have enough time to complete our work”, "We have too much to do in too little time”.

*Creative deviance.* We asked each employee to rate his or her magnitude of creative deviance in the month prior to the survey. The 8-item measurement reflects how much creative deviance he or she conducted in the previous month. Creative deviance was assessed using a nine-item measure with a 7-point Likert-type scale (Lin, Law, & Chen, 2011). Examples of items are: “Although the leader stopped my effort of developing some new ideas, I still worked on these rejected ideas.”

*Creative performance.* We used the measure developed by Zhou and George (2001). A sample item from the scale is, "Comes up with creative solutions to problems."

*Thriving at work.* Employees also rated their feeling of thriving (Porath, et al., 2012). Sample items included: “I continue to learn more and more as time goes by.”
Mundane performance. Supervisory ratings of employees' mundane performance were on a five-item general performance scale (Janssen & Van Yperen, 2004). A sample item from this scale is “This employee fulfills all responsibilities required by his/her job.”

Job boredom. Employees rated their feeling of job boredom in a 7-item scale adapted from Lee (1986). Sample items included "Do you find the job dull?" "Do you get apathetic on the job?"

Control variables. We collected the demographic information of participants’ age, gender, education, and tenure.

Results: The results mostly supported our theoretical model (see Figure 1). Results demonstrated that employees' creative deviance conveyed the effect of supervisors' playfulness on the employees' creative performance and thriving while employees' compliance behavior could negatively translate supervisors' playfulness into feeling of job boredom but not into mundane performance. In addition, when supervisors perceived high level of time pressure, the positive link from supervisors' playfulness to employees' creative deviance was weaken whereas the negative link to employees' compliance behavior was strengthened. As such, time pressure tuned two mediation chains by moderating the paths at the first stage.

Discussion: These results have both theoretical and practical implications. They show that when leaders’ convey a playful signal their employees are more likely to take risks and explore with creative ideas, even when their ideas are banned and they need to perform deviant behaviors. At the same time, such a playful signal from the leaders’ also limits conformity. This in turn can contribute to creative performance, while limiting expected mundane performance. It can also contribute to employees’ sense of vitality and learning (thriving), while limiting feelings of boredom. This is more likely to happen in situations in which the leaders do not experience time pressure. We discuss these findings in view of the type of organizations and their goals and tasks (is it an organization in which creativity is a major and important characteristic or is it an organization in which there is a need for accuracy, conformity and limited errors). We further discuss the need to structure spaces and settings in which employees can enact both creative and mundane performance. Practical implications of leaders’ ability to structure a playful work settings and how this may be effected in times of pressure are further discussed.

References


The complexity of modern environments requires creative performance. Leaders play a pivotal role in either fostering or hindering creativity in the workplace. In order for leaders to enhance creativity they need to enable followers to taking risks and experiment with novel directions. Since earlier research suggests that “ideas are born in fields of play” (Mainemelis & Ronson, 2006), leaders' playfulness is likely to contribute to followers' creative performance. However, at the same time, much leadership effort is directed at maintaining a solid structure, making good use of organizational resources, refraining from unwarranted risks and making
sure novel ideas can be implemented. In this research we study how this paradoxical tension is effected by leaders, suggesting that leaders’ playfulness positively contributed to employees' creative deviance, which in turn effects employees' thriving and creative performance. In contrast, employees' compliant behavior negatively relates to leaders’ playfulness and mediates boredom and mundane performance. The study was based on multi-sourced, longitudinal, three-waved field data from 503 leader-employee dyads in two advertising companies in South China. The results mostly supported our theoretical model. Theoretical and practical implications of leaders’ playfulness and of how this may affect deviant creative behavior and creative performance are discussed.
When Visions and Goals go Hand in Hand – Investigating the Effects of Vision-Goal Alignment on Followers’ Performance

Communication is crucial for leader to be effective in directing followers. For instance, vision communication can boost motivation and performance of followers and is therefore an essential tool of effective leadership (e.g. Shamir, House & Arthur, 1993; Stam, van Knippenberg, & Wisse, 2010a,b; Berson, Halevy, Shamir, & Erez, 2015). Giving a deeper meaning to daily work they encourage followers to put more effort into completing their daily tasks and strive to meet organizational goals. Also goal-setting for followers’ daily tasks is a relevant communicative strategy in leadership (Locke & Latham, 2002). Thus communication, be it in abstract long term visions or concrete task goals, is important for leaders. Importantly, in organizations, visions and goal-setting are usually not isolated from each other, but used simultaneously. Recent research has therefore focused on when vision communication or goal communication is especially effective (Berson et al., 2015). Yet, if visions and goals are used simultaneously in organization, an important issue is how vision communication and goal communication influence each other. Thus, we aspire to investigate the interactive effects of vision communication and goal communication on followers’ performance.

Based on the behavioral integrity approach (Simons, 2002), we suggest that visions and goals can enhance each other’s effects when they are aligned in terms of content. By setting goals which align with the abstract vision leaders confirm that they actually act consistently – they walk the talk. Thus, when aligned with concrete goals, the visionary message is credible and augments followers’ trust subsequently making them more willing to contribute to the task goal. Moreover, visions transmit values for the followers. Consequently, goals which are aligned with the vision should be perceived as more self-concordant making the followers feel happy to pursue them (Bono & Judge, 2003). In contrast, when goals do not align with the vision they might have
negative effects: The leader can be perceived as inconsistent which fosters uncertainty and unfairness perception resulting in distrust and less self-concordance. In summary alignment between goals and visions is expected to lead to higher performance of the followers compared with no alignment due to several mechanisms as trust and self-concordance.

In a first experimental study 123 students were randomly assigned to one of four conditions of a 2 (Vision: learning vs. performance) x 2 (Goal: learning vs. performance) design. Participants first read the Universities guidelines, including the vision manipulation (learning versus performance orientation). The learning vision fostered learning opportunities and development whereas the performance vision fostered good positioning in the individual career. Both were equally long and equally visionary. Afterwards the participants got the specific task (including the corresponding goal manipulation): students were asked to write the application for the internship emphasizing learning or performing opportunities. We used the rated quality of the applications as a measure of performance and predicted that in the case of alignment between vision and goal in terms of content (learning versus performance) there would be better performance than in case of misalignment.

The results indicated that participants wrote higher quality letters when they read a goal aligned with the vision condition (a learning goal after a learning vision or a performance goal after a performance vision) than when they read a goal not aligned with the vision (a learning goal after a performance vision or a performance goal after a learning vision).

In a second study, an online experiment that is currently ongoing, participants found themselves in a creativity-competition-scenario. They work in virtual teams with assigned leaders who present their vision for this competition in the beginning of the experiment. Further leaders set idea generation goals using instruction which were aligned or not aligned with the vision. In this study we added a no-vision condition and measured behavioral integrity and self-
concordance explicitly in a questionnaire. Thus, we will be able to analyze the mediating effect, when data collection is finished.

With these studies we aim to contribute to the literatures on visioning and goal-setting in at least three ways: First, by identifying interactive effects of vision communication and goal-setting, we integrate literature from two important research areas in management and motivation psychology. Without understanding both vision communication and goal-setting one cannot understand either fully and without understanding their interaction we leave a gap in the knowledge about visions and goals. Second, using behavioral integrity and self-concordance as mediators we not only suggest a mechanism for vision-goal alignment, but also add to the literature on these concepts. To the best of our knowledge, there is no other experimental study on the antecedents of behavioral integrity or self-concordance yet. Third, our findings allow managers to set goals efficiently (or construe visions to improve goal-achievement) using a new tool (alignment) that is clearly different from current best practices in goal setting (SMART, see Rubin, 2002). This tool is independent from the actual content and might be applied among others to encourage creativity and innovation (see Study 2).
I am like my supervisor: Effects of Person-supervisor proactive personality congruence on idea implementation

Introduction and Background

Although, prior research has theoretically advanced the proposition that employees are central to implementation of innovative ideas (Thomson & Purdy, 2014), yet research efforts that directly examines implementation of useful ideas have often been ignored in comparison to development of ideas (Anderson, Potoknik & Zhou, 2014; Batistic & Kase, 2016). Considering the high rate of idea implementation failure (Altuwaijria & Khorsheed, 2012; Chung, Choi & Du, 2017), this omission is significant because ideas are useless unless implemented (Levitt, 2002).

Individual innovative behavior represents two activities: (i) creative idea generation which refers to the generation of novel and useful ideas and (ii) implementation which denotes the transformation of these ideas into new products, processes and services at the workplace (e.g., Amabile, 1996; Baer, 2012). The current study only focuses on the second part of innovation process that is implementation of ideas at the individual level. This work draws on person-environment fit concept and integrates with proactive personality literature. PE fit is broadly defined as the compatibility between an individual and work environment that occurs when their characteristics are well matched (Kristof-Brown, Zimmerman, & Johnson, 2005). Under PE fit, the person-supervisor fit is the most proximal dyadic relationship between supervisors and subordinates because supervisor acts as the critical situational force to have an effect on employee’s intended work outcomes (Yang, Yan, Fan & Luo, 2017). Hence, we argue that supervisor characteristics as a contextual factor interact with individuals characteristics to jointly impact follower implementation of ideas.

Interestingly, emerging lines of research on individual differences suggest that proactive personality, defined as a relatively stable behavioral tendency to show initiatives, overcome situational constraints and take action to improve one’s environment, accounts for many meaningful workplace outcomes. For example, researchers found its influence on career success (Seibert, Crant & Kraimer, 2001), innovative behavior (Gong, Cheung, Wang & Heung, 2012), and job performance (Tornau & Frese; 2013).

Zhang et al. (2012) suggested that proactive individuals do not live in a social vacuum. With their supervisor, they continuously meet, discuss and share the knowledge about various operations at the workplace. Therefore, we believe that proactive personality of a follower and that of a supervisor could interact which jointly affect their perspective in evaluating different ideas for final implementation. Since proactive individuals in their pursuit of implementing generated ideas seek to target specific social-psychological support and other resources from their environment, among whom the supervisor of their work group is the most resourceful person, it is highly likely that proactive personality of a supervisor could positively influence the outcome of an idea (Campbell, 2000; Zhang, Wang & Shi, 2012).

Reflecting this logic on person-supervisor personality congruence, and addressing the idea implementation process at multilevel, the purpose of this study is to explore the influence of
person-supervisor proactive personality congruence in relationship dyads on successful idea implementation efforts.

The contributions of this study are threefold. First, from a theoretical standpoint, we develop a conceptual framework that extends existing explanations to the domain of idea implementation. This attempt, we believe, is a step forward in theorizing about proactive personality congruence (Anderson et al., 2014), given that current studies which explain congruence effects on implementation behavior are absent and have received little attention. Second, from an empirical standpoint, through cross-level polynomial regression and response surface modeling, we report evidence that reveals what level of congruence is salient for idea implementation success. In doing so, this study integrates the person-supervisor fit literature and proactive personality literature by incorporating a relationship-based mechanism where congruence in supervisor-follower proactive personalities caters for better PE fit resulting in idea implementation. Third, we contribute to the literature on proactive personality by incorporating supervisor’s proactive personality with their followers’ in examining the congruence effect on follower implementation success. This is important because proactive personality research has largely neglected role of a supervisor even though they influence follower’s proactive personality in achieving desirable work outcomes (Anderson et al., 2014; Zhang et al., 2012). Additionally, we investigate the two differing scenarios of incongruence between supervisor and follower proactive personality (i.e. when a follower has more or less proactive personality than a supervisor) to further increase our understanding of idea implementation.

Hypotheses

Person-Supervisor Congruence in Proactive Personality

We argue that individual traits or values when coinciding with those of the supervisor often generates goal congruence. As a consequence, we expect, the similarity in goals engenders better dyadic leader-member exchange (LMX) quality characterized by trust, respect, loyalty and mutual obligation (Lam, Lee, Taylor & Zhao, 2016; Liden & Maslyn, 1998). Based on role theory, LMX is truly a social exchange between supervisors and their followers where supervisors provide them with job-related resources like tasks (performed by members), information, flexibility, support, attention, and influence (Graen & Scandura, 1987). Because supervisors with proactive personality trait are inherently in search of improved processes and procedures at workplace, they tend to expect and communicate similar roles for their followers and discipline or reward them accordingly while functioning as legitimate innovative role models (Brown et al., 2005).

In addition, according to role theory, proactive supervisor hold a variety of positional resources such as the assignment of innovative tasks (role-taking), granting approvals and speaking favorably about followers to other stakeholders in the organization. As a result, followers with proactive personality, in turn, may contribute greater levels of implementation of their ideas (Liden et al., 1997), which result in supervisor belief in follower’s “role making” and “role routinization” capabilities (Bauer & Green, 1996).

Hence we propose the following hypothesis.
Hypothesis 1. Proactive personality congruence between supervisor/subordinate dyads will positively influence subordinate idea implementation behavior.

Person-supervisor incongruence in proactive personality

We take two different scenarios of the misfit in proactive personality: first when supervisors have more levels of proactive personality than their follower’s, and in another case, when supervisor have low levels of proactive personality than their follower’s. Although a higher proactive personality of a follower implies more idea generation, their implementation requires more job resources which could be threatening to existing routines for a supervisor, yet excess supplies in proactive personality dimension in a follower can be used to mitigate the negative effect of this incongruence. Moreover, a highly proactive follower can provide valuable resources to his/her supervisor through the initiation of various proactive tasks thus smoothening interpersonal resources (Wilson et al., 2010).

In contrast, when a follower proactive personality is lesser than that of a supervisor, they resist in promoting and implanting their ideas as they are unable to match supervisor’s high level of proactive personality. Because supervisor does not consider such a follower competent enough to take proactive roles, follower’s ideas are expected to be unaddressed and hence fails to get support. Furthermore, when proactive supervisors send proactive roles to less proactive followers, they get psychologically drained by lack of resources and are less likely to be engaged in implementing proactive ideas (Yang et al., 2017).

Hypothesis 2. Idea implementation is higher when follower’s proactive personality is higher than that of his/her supervisor’s rather than when supervisor’s proactive personality is higher than a follower’s.

Methodology

Based on a multisource and multiple time periods we used cross-level polynomial regression analysis (Jansen & Kristof-Brown, 2005; Shanock, Baran, Gentry, Pattison, & Heggestad, 2010) and response surface modeling analyses (Edwards, 2016; Edwards & Parry, 1993) to test the congruence effects of proactive personalities between supervisor and follower on followers idea implementation at the individual level on a sample from manufacturing industry.

Results

As shown in Table 1, the three second-order polynomial terms were jointly significant ($F= 7.88, p <0.001$), and the surface along the incongruence line curved downward (curvature=$-0.20, p<0.01$). The concave curvature along the incongruence line indicates that Idea Implementation is higher when a follower’s proactive personality is aligned with his/her supervisor’s, and any deviation from the congruence line (i.e., moving to its right or left) decreases idea implementation, thus supporting Hypothesis 1.

Regarding the asymmetrical incongruence effect (Hypothesis 2), the quantity representing the lateral shift is positive (0.71), indicating a shift toward the region where $F$ is greater than $L$. Thus, when a follower’s proactive personality is higher than his/her leader’s, idea implementation decreases less sharply than it does when the follower’s proactive personality is lower than the leader’s, supporting Hypothesis 3.
Discussion and Theoretical contribution

The current study responded to the recent call for multi-level studies at individual level in understanding what processes support idea implementation by individuals and how their interaction with leaders affect idea proposals for final implementation (Anderson et al., 2014). Investigating congruence of the personality trait of a supervisor with that of a follower is critical in understanding micro-level process of idea implementation because a person’s attitude towards his/her innovative ideas are shaped by the environment of which supervisor is the most important one (Kristof-Brown & Guay, 2011).

We extended theory on idea implementation and person-environment fit by estimating beneficial effect of the congruence in proactive personality between supervisor and follower on innovation implementation at workplace. Using data from a manufacturing firm from two sources- over two time periods, this study revealed that person-supervisor fit in trait proactive personality is associated with individual level innovation implementation. Specifically, we found that when followers proactive personality is well aligned with supervisors proactive personality they have more compatibility with supervisors which might help them to implement more of their ideas.

Unfortunately, there are negative perceptions associated with misfits in organization (Edwards & Cable, 2009). However, this study found that incongruence in some cases, may have unique benefits and hence firm should strive for retaining those misfit employees. Regarding this incongruence, we found that follower with high proactive personality than their supervisors mitigated any barrier emerging from this and implemented their ideas. While in case they have low proactive personality then their supervisors, it was detrimental to their idea implementation outcomes.

Practical implications

We suggest that managers should understand their own levels of proactive personality before overtly encouraging innovative behavior among their followers. As the result indicated, low levels of proactive personality in a manager may hinder the implementation of useful ideas from their proactive followers as they consider such innovative initiatives from followers as threatening and detrimental to their own growth. This perhaps may instill negative cognitive appraisals of failure in a follower, emerging from their own past experiences (Fiske & Taylor, 1991), affecting their propensity to ideate due to learned helplessness (Chung et al., 2017). Therefore, the personality incongruence effect we identified in the current study explains the reasons that why do supervisors undermine ideas from their followers.
Table 2
Cross level Polynomical Regressions of Idea Implementation on proactive personality Congruence/Incongruence

<table>
<thead>
<tr>
<th>Variables</th>
<th>Idea Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.69***</td>
</tr>
<tr>
<td>Age Dissimilarity</td>
<td>0.009</td>
</tr>
<tr>
<td>Gender Similarity</td>
<td>0.72***</td>
</tr>
<tr>
<td>Education similarity</td>
<td>-0.172**</td>
</tr>
<tr>
<td>Dyadic Tenure</td>
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</tr>
<tr>
<td>T1</td>
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</tr>
<tr>
<td>Employee PP (X)</td>
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</tr>
<tr>
<td>Supervisor PP (Y)</td>
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</tr>
<tr>
<td>X-square</td>
<td>-0.047</td>
</tr>
<tr>
<td>X.Y</td>
<td>-0.049</td>
</tr>
<tr>
<td>Y-square</td>
<td>-0.206</td>
</tr>
</tbody>
</table>

R 0.448

Congruence Line (X=Y)
Slope a1 0.69***
Curvature a2 -0.30

Incongruence Line (X=Y)
Slope a3 0.71***
Curvature a4 -0.20**

F for the 3 quadratic terms 7.88**