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**When anything less than perfect isn't good enough: How parental and supervisor perfectionistic expectations determine fear of failure and employee creativity**

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**Abstract**

In the quest to get the best from those for whom they are responsible, some parents and managers seek or demand perfection. But do such expectations benefit the targets, in terms of their capacity for creativity? The present research examines how perfectionistic parental and supervisor expectations influence employees' fear of failure and creativity; in particular, the authors propose that perfectionistic parental expectations promote a fear of failure, which undermines employee creativity later in life. In line with social cognitive theory, when perfectionistic supervisor expectations repeat and reinforce these early life experiences, the negative mechanism may be strengthened. Tests of the hypotheses rely on two time-lagged field studies in different cultures (214 U.S. employees, 276 supervisor–employee–parent triads from a Chinese organization) and show that the indirect effect of parents' perfectionistic expectations on creativity, through fear of failure, is stronger when perfectionistic supervisor expectations are high. This study thus offers unique insights into how familial and work experiences can jointly affect a person's fear of failure and further creativity at work.

*Keywords:* creativity, fear of failure, perfectionistic expectations

“I had a 99.... My father asked, Why not a 100?” —Dr. Katharine Kersey (Conroy, 1987)

Perfectionism is increasingly legitimized and even demanded in society (Curran & Hill, 2019) and at work (Ocampo et al., 2020). Best-selling authors (e.g., Chua, 2011) advocate perfectionistic parental behaviors, similar to Dr. Kersey’s description of her father, that include chastising mistakes and demanding invariably perfect performance. Such perfectionistic parental behaviors signal to children that perfection is a necessity, discouraging children’s experimentation, learning through failure, or exploration of diverse life experiences (Beghetto & Kaufman, 2007). At work, corporate leaders such as Jeff Bezos and Jack Ma are infamous for scolding workers who deliver anything less than perfect outcomes. Parents and supervisors, as authority figures, serve as referents and communicate social expectations about what is important, whether to children or to adult employees. But if these authority figures always demand perfection, rather than allowing trial-and-error efforts, it may discourage people from grappling with challenging and difficult problems or developing their creativity (Fearon et al., 2013; Xu et al., 2021). Such unrealistic perfectionistic demands convey to people that they are likely to fail, discouraging experimentation or exploring new ideas, as is required for creativity (Fong, 2006; Lerner & Kelner, 2001). These deleterious impacts of perfectionistic expectations on individual creativity should be particularly concerning for organizations relying on employee creativity for organizational-level innovation and their survival (Amabile, 1988, 1996).

To address this, we draw on social cognitive theory (Bandura, 2001) and a schema congruence perspective (Baldwin & Fergusson, 2001; Lee et al., 2001) to predict first that parents’ perfectionistic expectations shape how their offspring regulate and respond to demands. *Perfectionistic parental expectations (PPE)* impose excessive, unrealistic expectations on children (Flett et al., 2002; Frost et al., 1990), for whom the resulting fear of

failure prompts them to work to avoid the shame and humiliation associated with failure (Atkinson, 1957). Excessive, unrealistic, unreachable expectations also can create learned inadequacy or a belief that they can never satisfy their parents (Bandura, 1995), further priming the fear of failure and associated shame (Elliot & Thrash, 2004; Hancock & Teevan, 1964; Sagar & Stoeber, 2009). In response, people likely develop a preference for cautious, tried-and-tested strategies, which offer less potential for creativity (Runco et al., 1993).

Building on these predictions, we consider how lessons and experiences with parents can be reinforced by similar interactions in work settings. According to a schema congruence and reinforcement view, if perfectionistic supervisor expectations mirror parents' expectations of the employees as children, employees likely re-experience prior patterns, including negative emotions and fears of failure (Baldwin & Fergusson, 2001; Lee et al., 2001). From a schema congruence perspective, *perfectionistic supervisor expectation (PSE)*, or excessively high standards set by supervisors, invoke demanding experiences that are similar to those learned from perfectionistic parents, so they activate and confirm employees' underlying cognitive belief system (Baldwin & Fergusson, 2001; Lee et al., 2001) and fear of failure (Hancock & Teevan, 1964). In brief, we propose that PPE relates positively to fear of failure, which undermines employees' creativity at work. As a contextual factor, PSE then makes the link between PPE and fear of failure more salient at work, further undermining employees' creativity (see Figure 1).

We test these theoretical predictions in two complementary studies. In a pilot study, we adopt a time-lagged design to examine 214 U.S. employees' experience of PPE and PSE and the influences on their creativity at work. Then in the main study, we test our theoretical model with a multi-source, time-lagged design, involving 276 matched parent–employee–supervisor triads from a Chinese organization.

The findings of these studies establish several relevant contributions. First, research on perfectionism has mostly centered on its self-oriented form (Ocampo et al., 2020) and only recently noted the effects of leader perfectionism, a form of other-oriented perfectionism that can shape employee creativity (Xu et al., 2021). To extend these insights, we test how parents' and leaders' perfectionistic expectations jointly affect people's fear of failure and, further, their creativity at work. We find that people who grow up with PPE are more vulnerable if, later in their lives, they also are subject to perfectionistic expectations at work. Thus, the congruent effects of other-oriented perfectionism expectations, as imposed by multiple authority figures, intensify people's reactions to them.

Second, we theorize and test a negative social learning pathway for creativity by unpacking a mediating role of fear of failure. Most studies that apply social cognitive analyses note the development of positive skills or motivations (e.g., Huang et al., 2016; Tierney & Farmer, 2002, 2004), rather than acknowledging how negative mechanisms might be established and impede creativity (Garcia et al., 2014; Liu et al., 2012). In response, we explicitly examine how a fear of failure, evoked by familial and supervisory experiences, can lead to negative consequences for individual creativity. This is an important insight, considering the lack of evidence related to why some employees fear failure and how this fear manifests and is reinforced by the workplace (Engel et al., 2021). Answering such questions can offer suggestions for managing and helping employees cope with fears acquired in childhood, in ways that enable them to express more creativity at work.

Third, broadly speaking, employee creativity research tends to prioritize workplace influences (e.g., Anderson et al., 2014; Unsworth, 2001), rather than attending to how familial factors might affect it (Harrison & Wagner, 2016; Lu et al., 2017; Madjar et al., 2002; Tang et al., 2017). By establishing the effect of PPE, we show that creativity depends on familial experiences, an important consideration in light of evidence that different

developmental stages involve distinct features and characteristics (Erikson & Erikson, 1998). Existing creativity frameworks and theories that only encompass adult or work-related influences might lead to an incomplete, inaccurate view that ignores critical formative influences on creativity (Lau & Cheung, 2010; Urban, 1991).

Insert Figure 1 about here

## **1. Theoretical background and hypotheses**

### **1.1. Perfectionistic parental expectations and fear of failure**

Social cognitive theory reflects an agentic perspective, according to which people function as purposive, goal-oriented, proactive, self-evaluating regulators of their own behaviors and motivation (Bandura, 2001). This theory also predicts that parents can shape children's beliefs, positively or negatively. For example, parents may foster a family environment that imposes (un)realistic goals and expectations, thereby (discouraging) encouraging their children's creativity (Gralewski & Jankowska, 2020; Zheng et al., 2020). If parents discourage children from engaging in challenging experiences, it might weaken those children's motivation to keep trying (Zheng et al., 2020).

We argue that PPE in particular can lead to fear of failure, because it represents overly critical evaluations, demanding not just strong performance but the total absence of errors (Frost et al., 1990; Hewitt & Flett, 1991; Ocampo et al., 2020). In turn, PPE can create a sense of helplessness and lack of control among children, whose parents consider anything less than perfect performance not good enough (Frost et al., 1990). These offspring learn from their social interactions with their perfectionistic parents that it is impossible to satisfy unrealistically high standards, which likely produces anxiety, a sense of helplessness, and a belief in their own lack of control (Burhans & Dweck, 1995; Sagar & Lavalley, 2010). They also tend to view uncertainty as a threat, associated with the risk of failure (Main et al., 1985; McCarthy & Maughan, 2010). Repeated criticisms and

accusations of failure then reinforce people's sense of inferiority or inadequacy, along with fears of the shame and emotional pain associated with failure (i.e., fear of failure) (Sagar & Stoeber, 2009). Children who come to believe that they have little chance of meeting impossibly high standards become preoccupied with their own failings, inducing a chronic sense of helplessness and hopelessness (Burhans & Dweck, 1995; Sagar & Lavallee, 2010). The decreased autonomy resulting from the imposition of unrealistic standards also undermines perceptions of control (Ryan & Deci, 2000), which tends to be associated with feelings of inadequacy or ineffectiveness.

Furthermore, perfectionistic parents, fixated on their offspring's performance (Dix, 1991), often use punishment strategies (e.g., withdraw of love). If people's self-worth and perceptions of love, care, and concern depend on their performance, meeting expectations becomes a focal concern (Burhans & Dweck, 1995), prompting them to internalize their fears of inadequacy (Flett et al., 2002; Hamachek, 1978). As a result, people develop a conditional and fragile sense of self-worth, are preoccupied with failure, and learn it is preferable to be cautious and vigilant (Frost et al., 1990). Building on this reasoning, we anticipate that PPE contributes to children's fear of failure.

*Hypothesis 1.* Perfectionistic parental expectations relate positively to fear of failure.

## **1.2. Moderating effect of perfectionistic supervisor expectations**

As noted, social cognitive theory suggests that experiences with parents shape cognitions; it further predicts that these cognitions can be reinforced in environments that afford similar experiences (Bandura, 2001). Reinforcement, according to a schema congruence perspective, occurs when congruent events occur again, in some other setting or later in life (Baldwin & Fergusson, 2001; Lee et al., 2001). In particular, cognitive and belief systems can be reinforced by repeated, comparable experiences later in life (Baldwin, 1992; Bandura, 1991; Bandura & Locke, 2003; DeShon & Gillespie, 2005; Nemeroff,



2004). Fear of failure reflects one such belief system, in that the person senses she or he is unlikely to achieve desired goals and instead is likely to fail, which induces fear (Martin & Marsh, 2003). Such belief, is a type of cognitive and belief system (Bandura & Locke, 2003; DeShon & Gillespie, 2005), which could be reinforced by repeated, comparable experiences later in life (Baldwin, 1992; Bandura, 1991; Nemeroff, 2004). Comparable experiences, also known as schema-congruent events, confirm and activate the underlying schema involving in fear of failure. Repeating and so confirming maladaptive schema increases its dominance, prompting the person to filter and process future events according to this perspective. Because it has been reinforced and confirmed, the schema intensifies the person's preference to avoid any risky behaviors.

With this theoretical foundation, we predict that PSE represents a critical situational factor that can explain and predict whether employees re-experience the fear of failure they learned through parental interactions. If supervisors set excessively high performance standards, demand rigid adherence, express little tolerance for deviation, and impose pressures on employees (Xu et al., 2021), it creates a congruent situation for employees who were raised by perfectionistic parents. The unreachably high standards of PSE inevitably result in failures at work and an associated sense of shame. This repetitive prime reinforces the influence of PPE on people's fear of failure, such that this relationship should grow stronger. But if leaders instead exhibit low PSE, employees do not re-encounter their previously learned associations, even if they grew up under high PPE. Therefore, the relationship between PPE and fear of failure does not get activated. Furthermore, employees have more chances to meet the reasonable standards created by low PSE, so the frequency and salience of failure experiences decrease. Again, the detrimental psychological mechanisms (e.g., pathological fear of failure, inferiority) learned in childhood get activated less frequently. We predict in turn:

*Hypothesis 2:* PSE moderates the relationship between PPE and fear of failure, such that the positive association is stronger when PSE is higher.

### **1.3. Fear of failure and creativity**

Individual creativity involves the development of new and useful solutions to problems (Amabile, 1983, 1988, 1996); it rarely produces perfect outcomes immediately. First attempts usually are imperfect, and failure is common (Amabile & Kramer, 2011; Mumford et al., 2020; Tahirsylaj, 2012). In line with social cognitive theory, we posit that fear of failure undermines creativity in two ways. First, a key tenant of social cognitive theory is that people process, learn, and adjust their behaviors according to their social interactions and feedback provided by the context (Bandura, 2001), even as individual motivations and dispositions simultaneously influence what they regard as important and salient in these interactions. People with a strong fear of failure are driven primarily by their motivation to avoid shame in social contexts, and they are particularly attuned to negative, failure-related social signals. Due to their own preoccupation with and fear of failure, they learn to prefer safer, more conservative, predictable, less risky options (Eysenck, 1995), to avoid the risk of failure and any associated criticism (Conroy et al., 2007). In preferring such options, people become less likely to improvise, explore, or remain open to random, novel ideas that might seed creativity (Chae & Choi, 2019).

Second, social cognitive theory acknowledges the varying resources and capacities people possess for regulating their behavior. Fear of failure leads people to doubt their own ability, in that they often feel overwhelmed and helpless (Conroy, 2001). In turn, they may be less likely to self-regulate and devote efforts to being creative, because they lack the motivation and willpower to engage in and persist with purposive, goal-oriented, proactive efforts to pursue creativity. In contrast, people who experience less fear of failure should be more likely to believe they can achieve their goals and self-regulate their behavior, such

that they might actively experiment and seek feedback (positive or negative), even in uncertain environments. Such behaviors help them regulate their behaviors to generate creative new ideas to solve problems (De Stobbeleir et al., 2011). Therefore, we propose:

*Hypothesis 3:* Fear of failure relates negatively to creativity.

#### **1.4. Moderated mediation model**

In combination, our predictions in Hypotheses 1–3 imply a moderated mediation effect, such that the magnitude of the indirect effects of PPE on people's creativity at work, through their fear of failure, varies depending on how much reinforcement this schema receives from similar, congruent events (i.e., PSE) at work. That is, for people raised under PPE who then experience high PSE at work, the fear of failure schema they learned early is reinforced by excessively high standards set by supervisors, so that they produce even less creativity at work. In contrast, for people raised under PPE who then experience low PSE at work, their fear of failure schema is less likely to be evoked, because their work environment does not create repeated experiences of unreasonable demands (PSE). Because their fear of failure is not evoked or reinforced, they may exhibit a greater capacity for creativity at work.

*Hypothesis 4:* PSE moderates the mediation effect of fear of failure on the relationship between PPE and creativity. The mediation effect of fear of failure is stronger for employees who experience higher PSE.

## **2. Pilot study**

### **2.1. Sample and procedures**

In the pilot study, we tested our model by surveying 205 full-time contributors to Amazon Mechanical Turk (MTurk), an online crowdsourcing platform that offers access to representative, diverse, and international data (Buhrmester et al., 2016; Paolacci et al., 2010). We collected responses pertaining to the independent, moderating, and mediating variables at Time 1, then gathered input regarding individual creativity at Time 2, one month later. To

ensure participants met the study requirements, we required them to be employed full-time and report to a supervisor, working in the United States, with a 99% approval rating on MTurk, having completed a minimum of 1000 previous tasks. Participants earned US\$3.00 and US\$1.00 for their participation in the Time 1 and 2 surveys, respectively. After collecting all the data, we tracked their Internet protocols and MTurk identification numbers to filter out any repeated participation (Aguinis et al., 2021).

In total, we received 410 responses at Time 1 and 347 complete responses at Time 2. We matched the surveys across time using MTurk identification codes, which revealed 287 paired responses. To confirm that the participants paid attention, we added an attention check and excluded participants who spent an unreasonably short time answering the survey, which reduced the sample to 240 responses. Finally, we deleted 35 responses with insufficient variance in their answers. The resulting 205 responses came from participants working in a wide range of industries (e.g., manufacturing, retail, government, health sciences, legal, accounting, IT). Slightly more than half (56.5%) were men. The respondents were Caucasian (84.6%), African American (6.5%), Asian (5.1%), American Indian or Alaskan (0.9%), or other (2.8%), and they averaged just over 8.34 years' work experience, including about 5.04 years working with a focal supervisor. Slightly more than half (57.5%) had a bachelor's degree, about one-fifth had a high school degree (20.6%) or a master's degree (18.5%), and a few (3.1%) had earned doctoral degrees.

## **2.2. Measures**

Participants rated the items on 7-point Likert-type scales (1 = "strongly disagree/not at all," 7 = "strongly agree/to a very great extent"). In this Mturk study, all measures were self-reported.

**PPE** was measured using three items obtained from the 5-item parental expectations subscale contained in the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al.,

1990). Frost et al. (1990) items cover broadly family-related expectation, including “family expectations” and “comparative expectation between self and parents”. To precisely capture our definition of PPE (i.e., a person’s exposure to perfectionistic expectations from parents), we used three items which whole concept of PPE, including “My parents want me to be perfect,” “My parents want me to succeed in everything I do,” and “My parents want me to be the best at everything” ( $\alpha = .78$ ).

**PSE** refers to supervisors imposing excessively high standard on employees. We slightly revised the three items from the 5-item parental expectations subscale in the FMPS (Frost et al., 1990) to fit a work context, such that they read: “My supervisor expects me to be perfect,” “My supervisor expects me to be to succeed at everything I do,” and “My supervisor has high expectations of me” ( $\alpha = .74$ ).

**Fear of failure** was measured by the 5-item fear of failure sub-dimension in the Achievement Motives Scale developed by Lang and Fries (2006) comprising, “I feel uneasy to do something if I am not sure of succeeding,” “Even if nobody would notice my failure, I’m afraid of tasks, which I’m not able to solve,” “Even if nobody is watching, I feel quite anxious in new situations,” “If I do not understand a problem immediately I start feeling anxious,” and “I am afraid of failing in somewhat difficult situations, when a lot depends on me” ( $\alpha = .94$ ).

**Employee creativity** was measured by Farmer et al. (2003). 4-item scale of, “At work, I seek new ideas and ways to solve problems,” “At work, I generate ideas revolutionary to the field,” “At work, I am a good role model for innovation/creativity,” and “At work, I try new ideas or methods first” ( $\alpha = .90$ ).

Age, gender, organizational tenure, and supervisor–employee dyadic tenure were included as controls. We controlled for age because, as Rietzschel et al. (2016) have shown, creativity varies across people’s lifespan. Gender also may influence creativity (e.g., Farmer et al., 2003). Longer organizational tenures, as well as more experience working together,

likely produce work domain expertise that can support creativity (Oldham & Cummings, 1996). Furthermore, we controlled for self-concordance, defined as a person's sense of pursuing one's own interests and core values, rather than feeling compelled to do something by external or internal pressures (Sheldon & Elliot, 1999). It is similar to employees' intrinsic motivation, which can inform the impact of agency on employees' creativity (e.g., Dong et al., 2015; Gong et al., 2009; Zhang & Bartol, 2010). We thus adapted five items from a self-concordance scale by Sheldon and Elliot (1999) and Shamir and Eilam (2005), as previously used by Hirst et al. (2016): "The work I do reflects what is important to me," "I'm passionate about my work," "The work I do reflects my core values and beliefs," "I feel a strong internal commitment to my role," and "The work that I do is consistent with my values and beliefs" ( $\alpha = .96$ ).

### **2.3. Results**

Prior to the hypotheses tests, we conducted a confirmatory factor analysis (CFA) to establish the discriminant validity of the key constructs (Wu et al., 2016) using Mplus 7 (Muthén & Muthén, 2012). The CFA results demonstrated that the four-factor model (PSE, PPE, fear of failure, and creativity) fit the data better ( $\chi^2(84) = 151.454$ ;  $p < .01$ , confirmatory fit index [CFI] = .965, Tucker-Lewis index [TLI] = .956, root mean square error of approximation [RMSEA] = .061, standardized root mean residual [SRMR] = .046) than alternative models, such as the three-factor models that result when we combine PPE and PSE into one factor ( $\chi^2(87) = 321.241$ ;  $p < .01$ , CFI = .878, TLI = .853, RMSEA = .112, SRMR = .073) or combine PSE and fear of failure into one factor ( $\chi^2(87) = 361.276$ ;  $p < .01$ , CFI = .857, TLI = .828, RMSEA = .121, SRMR = .112). Table 1 contains the means, standardized deviations, and correlations of the key variables.

We then used path analysis in Mplus 7 (Muthén & Muthén, 2012) to test the relationships among the variables. We achieved a saturated model ( $\chi^2(0) = .000$ ,  $p < .01$ ; CFI

= 1.000; TLI = 1.000; SRMR = .000; RMSEA = .000) by adding an interaction effect between fear of failure and PPE on creativity. In the all-in-one path model for our saturated model (Table 2), PPE did not exhibit a positive relationship with fear of failure ( $\beta = .05$ ,  $SE = .09$ , *ns*), in contrast with Hypothesis 1, but we found a significant interaction effect of PSE and PPE for predicting fear of failure ( $\beta = .15$ ,  $SE = .07$ ,  $p < .05$ ). As we depict in Figure 2 (Cohen et al., 2013), PPE has a positive relationship with fear of failure when PSE is high (mean + 1SD) (simple slope = .38,  $SE = .15$ ,  $p < .05$ ) but a null relationship with fear of failure when PSE is low (mean - 1SD) (simple slope = .01,  $SE = .12$ , *ns*). These nuanced findings provide support for Hypothesis 2. Furthermore, fear of failure is negatively associated with creativity ( $\beta = -.23$ ,  $SE = .05$ ,  $p < .01$ ), in support of Hypothesis 3.

With bootstrap analyses, which generated 5,000 samples, we computed bias-corrected confidence intervals (CI) (Edwards & Lambert, 2007) and find support for Hypothesis 4. The Mplus path model indicates that the indirect effect of PPE on creativity through fear of failure is significant for employees who experience high levels of PSE ( $\beta = -.05$ ,  $SE = .22$ , 95% CI [-.80, -.06]) but not for those who experience lower PSE ( $\beta = -.01$ ,  $SE = .03$ , 95% CI [-.05, .04]). In summary, the Mplus path model offers support for Hypotheses 2–4.

Insert Table 1 and 2 and Figure 2 about here.

## 2.4. Discussion

Although this pilot study offers support for Hypotheses 2–4, it fails to confirm Hypothesis 1. This non-significant finding might be due to two reasons. First, PPE by itself might not be an especially salient phenomenon in Western cultures such as the United States, to the extent that it exerts a persistent impact on attitudes throughout people's lives. Second, in this pilot study, we gathered self-reported ratings for all the measures (including PPE and fear of failure). Self-rated PPE may be biased by selective recall of childhood experiences, especially among the children of perfectionist parents, who likely experienced substantial

stress in their youth and thus might have unhappy memories. In turn, they might selectively forget negative experiences; people often seek to ignore unpleasant events to maintain their well-being (Mather et al., 2000). To address these effects and potential limitations, in the main study, we collect multisource time-lagged data, include both parent-rated PPE and supervisor-rated creativity, and conduct the study in a different culture.

### **3. Main study**

#### **3.1. Sample and procedures**

We collected data from three sources (supervisors, employees, and parents), then matched them in a two-wave, time-lagged design. The data came from a large quality control organization based in a satellite city of Beijing. It provides inspection, testing verification, and certification services for various industries (e.g., electronics, chemical and industrial manufacturing) and products (e.g., food, metal materials, light industrial products), serving mostly large, multinational corporations. To help the different industry sectors maintain their quality standards, the quality control department of this organization sought to develop new technologies. In interviews with six department heads and 13 employees, we learned about creative examples of these technologies, such as (1) using new inspection technologies to detect potentially harmful minerals, (2) extending a technology used for one type of product to a wider range of products, (3) verifying emerging products by combining global information with local knowledge, and (4) generating high-tech solutions to demonstrate the reliability of testing procedures and meet clients' business needs. This organization accordingly provides a relevant context for this study. It is conducive to studying PSE, because supervisors must maintain high-quality products with little tolerance for errors. But it also demands creativity, because the testing processes involve new and uncertain chemical reactions with uncertain outcomes, which demand constant experimentation.



One of coauthors presented the research directly to the general manager, who agreed to assist with the survey announcement. The management team sent an email to all employees describing the research purpose, assured confidentiality, and confirmed that participation was voluntarily. To protect the identity of participants while matching their data with input from parents and supervisors, we applied a numeric coding system. For the data collection, a coauthor, with assistance from doctoral students, distributed the questionnaires to employees and supervisors, offering additional explanations of the research purpose, respondents' confidentiality, and voluntary participation. The employees and supervisors received an envelope that contained the questionnaire, a consent form, and pen; we asked them to place the answered survey back into the envelope, seal it, and submit it to the researcher on-site. The organization did not have access to the raw data. After completing the questionnaire, each participant received 50 RMB (approximately US\$7.5).

To make introductions, we next asked employees to explain the research purpose and confidentiality to their parents and request their parents' participation. Then we contacted those who agreed to participate (367 of 416 parents). If it was geographically possible, the research team visited the parents and handed out copies of the questionnaire, after receiving permission. Members of the research team read the questionnaire to parents who struggled with literacy limitations or poor eyesight. Parents in remote regions received their questionnaires in the mail with a stamped return envelope. After completing the questionnaire, each parent received 100 RMB (approximately US\$15). We applied a numeric coding system to ensure their anonymity.

In total, 332 of 416 parents (79.80% response rate), 326 of 367 employees (88.83% response rate), and 59 of 84 supervisors (70.23% response rate) completed the second-wave surveys about creativity. After matching, we obtained 276 matched supervisor–employee–parent data triads (276 employee–parent dyads in wave 1, with 59 supervisors in wave 2).

Employees were on average 31 years of age ( $M = 31.83$  years,  $SD = 5.77$ ), had worked for the firm for more than 5 years ( $M = 5.58$  years,  $SD = 4.63$ ), and had worked with the focal supervisor for most of that time ( $M = 4.22$  years,  $SD = 3.74$ ). Almost half the employees (46.5%) had a bachelor's degree; 15.4% had completed a college degree, which in China is a short, practically oriented university program; and about one-third (36.5%) had earned at least a master's degree. Nearly half ( $n = 173$ ) of the employees were men. The supervisors averaged about 44 years of age ( $M = 44.36$  years,  $SD = 7.04$ ) and had an organizational tenure of more than 15 years ( $M = 15.64$  years,  $SD = 8.65$ ). Half of them (50.0%) had a bachelor's degree, and one-third (36.2%) had a master's degree or higher. Slightly more than half (55.2%) of the supervisors were men. Parents averaged 60 years of age, with a roughly equal gender split (51.4% men). In terms of education, 9.4% of parents obtained a primary school degree, 20.7% a secondary school degree, 29.3% a high school degree, 20.3% a college degree, 16.3% a bachelor's degree, and 4.0% a master's degree or higher. The majority of parents (60.9%) were white-collar workers (e.g., business owners, government or private company employees, teachers, doctors), and the rest had blue-collar jobs (e.g., farmers, laborers); approximately half (48.10%) were still working.

### **3.2. Measures**

The survey was translated by two coauthors, using the procedures described by Brislin (1980). We used 7-point Likert-type scales (1 = "strongly disagree/not at all," 7 = "strongly agree/to a very great extent"). Employees rated fear of failure and PSE at wave 1. Employees parents rated PPE also at wave 1. Supervisors rated employee creativity during wave 2, which took place two months later.

**PPE** was rated by parents to minimize same-source bias. Parents were asked to answer the questions with the stem "Please think about your child from childhood to adulthood and

consider how you generally treated him/her.” We use the same PPE items as our pilot study, adapting to a parental rating (e.g., “I want my child to be perfect”  $\alpha = .93$ ).

**PSE** was rated by employees in order to capture employee perceptions of supervisor behavior accurately. We use the same PSE items from the pilot study, and slightly modified one item from “My supervisor expects me to be perfect” to “My supervisor has very high standards of me” ( $\alpha = .94$ ). We did so because in this work setting, standards are applied to assess performance and individuals need to perform according to these, and so we more precisely capture the formal criteria that supervisors apply.

**Fear of failure** was self-rated, using the same scales as our pilot study ( $\alpha = .89$ ).

**Creativity** was supervisor-rated, which measured using the same scales from our pilot study. We shifted the referent from a self-rated “I” to a supervisor-rated “the employee...” ( $\alpha = .92$ ).

We controlled for employee age, gender, supervisor–employee dyadic tenure, organizational tenure, and self-concordance ( $\alpha = .88$ ), as in the pilot study. We also considered and controlled for two job categories, research and development (i.e., R&D) or non-R&D, which might influence the extent to which creativity is required for the employees’ work tasks.

### **3.3. Analytical strategy**

We collected data according to a cluster data structure for creativity ratings (i.e., 71 supervisors rated 326 employees; each supervisor rated 4 to 5 employees). However, the intraclass correlations (ICC) for PSE (ICC(1) = .024; ICC(2) = .110) did not aggregate to the team level. To deal with this nested but non-aggregating structure, we adopted a design-based modeling approach that “takes the multilevel data or dependency into account by adjusting for parameter estimate standard errors based on the sampling design” (Wu & Kwok, 2012, p. 17; TYPE=COMPLEX in Mplus 7, Muthén & Muthén, 2012). In our research, this approach

enables us to account for non-independent data structures when we examine mechanisms at the employee level (Wu & Kwok, 2012). Using the “TYPE=COMPLEX” command in Mplus 7, we tested the hypotheses with a clustered equation, path-analytic approach (Edwards & Lambert, 2007; Preacher et al., 2007).

### 3.4. Results

According to a CFA, which we undertook to assess the fit of our theorized model, the five-factor model was a superior to fit ( $\chi^2(84) = 101.184, p < .01$ ; CFI = .995; TLI = .994; RMSEA = .081; SRMR = .025) to alternative models, such as the three-factor models that combined PSE and PPE into one factor ( $\chi^2(87) = 917.373; p < .01$ , CFI = .770, TLI = .722, RMSEA = .175, SRMR = .126) or combined PSE and fear of failure into one factor ( $\chi^2(87) = 1291.629; p < .01$ , CFI = .666, TLI = .596, RMSEA = .211, SRMR = .256). Table 3 contains the means, standardized deviations, and correlations of the key variables.

Again, we attained a saturated model ( $\chi^2(0) = .000, p < .01$ ; CFI = 1.000; TLI = 1.000; SRMR = .000; RMSEA = .000) by adding an interaction effect between fear of failure and PPE on creativity. In the all-in-one path model for our saturated model (Table 4), we found support for Hypothesis 1, in the form of a significant, positive association between PPE and fear of failure ( $\beta = .43, SE = .08, p < .01$ ). We also obtained support for Hypothesis 2, with a significant, positive interaction of PSE and PPE on employee’s fear of failure ( $\beta = .09, SE = .04, p < .05$ ). The positive relationship between PPE and fear of failure was stronger when PSE was high (mean + 1SD) (simple slope = .60, SE = .10,  $p < .01$ ) than when it was low (mean – 1SD) (simple slope = .25, SE = .13,  $p < .05$ ) (Figure 2) (Cohen et al., 2013). As we predicted in Hypothesis 3, fear of failure was negatively associated with creativity ( $\beta = -.20, SE = .10, p < .05$ ). In addition, the interaction of PPE and PSE on creativity was significant ( $\beta = -.09, SE = .04, p < .01$ ). Finally, in support of Hypothesis 4, the indirect effect of PPE on creativity through fear of failure was negative for employees who experienced

higher levels of PSE ( $\beta = -.04$ ,  $SE = .02$ , 95% CI  $[-.08, -.01]$ ) but not significant for employees who experienced lower PSE ( $\beta = .02$ ,  $SE = .01$ , 95% CI  $[.00, .05]$ ). In summary, all hypotheses were supported in this main study.

Insert Tables 3 and 4 about here.

#### **4. General discussion**

Applying social cognitive theory, we predict and confirm that a perfectionistic supervisor negatively reinforces fears of failure that employees learned from their perfectionistic parents, reducing their creativity at work. Specifically, the association between PPE and people's fear of failure is stronger when PSE is high rather than low.

##### **4.1. Theoretical implications**

Although it is well established that people learn from various authority figures, throughout their lifetimes, starting with the family environment and extending to professional settings, we know of no research that considers whether and how workplace events might reinforce familial experiences. Building on social cognitive theory, with a schema-congruent perspective, we examine how PSE might strengthen the fear of failure that people learn from their perfectionistic parents and contribute to management research by establishing potential influences of a novel interface (i.e., supervisor–parent). As we show, supervisor–subordinate interactions are influenced by experiences far beyond work, which may begin in childhood.

With regard to applications of social learning and social cognitive theory to creativity literature, we theorize and test for a negative social learning pathway. Negative social learning and cognitive experiences are prevalent (Harris, 2018; Hobfoll, 1989), yet most creativity research to date focuses on how positive social interactions encourage creativity (e.g., Huang et al., 2016; Tierney & Farmer, 2002, 2004). By studying negative influences with a theory- and process-based rationale, we link psychological processes with workplace creativity (Wood et al., 2008) and derive a solid mediation framework of workplace creativity

that shows how fear of failure, a negative emotional orientation involving a preoccupation with failure, discourages individual creativity.

Despite growing evidence of the importance of developmental experiences on work behaviors (Campbell et al., 2019; Huang et al., 2020; Kish-Gephart & Campbell, 2015; Liu et al., 2019; Martin et al., 2016), studies of employee creativity still prioritize workplace-based influences. With this research, we highlight the importance of relationships and interactions that mark early, formative periods of development. Parents who seek perfection in their offspring ultimately can undermine their creative potential. Such findings align with other studies of over-monitoring and demanding parenting behavior, such as helicopter parenting; by giving children little space to learn and grow, parents hinder their children's capacity to regulate their emotions (Perry et al., 2018) and develop leadership capabilities (Liu et al., 2019). It thus appears that excessive hopes, standards, and expectations expressed by parents, rather than helping, ultimately constrain the growth and success of their children.

#### **4.2. Practical implications**

This research offers practical implications for managers, employees, and parents. First, leaders should not set overly high goals for employees. Especially if employees come from a high PPE family background, perfectionistic expectations could be very detrimental. In addition, leaders might consider employees' personal, developmental background when deciding to what extent to impose challenging or aspirational goals on them. Second, leaders seeking to encourage creativity should emphasize to employees that creative problem solving is inherently a risky process, then reframe failures as a necessary step in learning and developing more successful solutions. In that regard, taking risks and deviating from the status quo should appear essential to employees' creativity.

Third, management research tends to ignore parents, but we demonstrate the relevance of perfectionistic parenting for workplace creativity. Some parents in East Asian

cultures endorse “tiger parenting,” a belief that only strict parents who push their children to the highest levels can raise successful offspring (Chua, 2011). These tiger parents are satisfied only with perfection, demand outstanding marks at school, intensify their children’s learning experience through additional lessons, and enroll them in after-school and weekend classes (Kung & Lee, 2016). Even if well-intentioned, these parenting approaches can deprive children of opportunities to learn through failure, develop initiative and autonomy, explore or daydream about possible futures, and reach their creative potential. Information about the detrimental, lingering impacts of perfectionistic parenting should be shared widely, to help parents understand the potentially detrimental effects on children’s future success.

#### **4.3. Limitations**

In the pilot study, the self-reported measures create the risk of common method variance (Podsakoff et al., 2003). In the main study, we gathered multisource data to avoid same-source biases, but without a full life-course study, assessing independent and dependent variables in childhood and adulthood, there is no perfect way to measure perceptions of parenting. It is impossible to “go back to the future” to measure parenting choices made decades prior. A longitudinal study of PPE in childhood and then children’s subsequent creativity as adults would take at least two decades. Although we collected measures over time in a two-wave design, our PPE items are retrospective. In our effort to mitigate this concern of retrospective account of PPE, we used the stem, “Please think about your child from childhood to adulthood and consider how you generally treated him/her” to encourage parents to express a broad, consistent attitude toward their offspring throughout their lives.

A further issue pertains to the generalizability of our findings across cultures. The setting of our main study, China features high power distance, so deference to authority is normative (Hofstede, 2001), and children might be more influenced by PPE. Yet our pilot study with U.S. respondents, representing a culture with relatively low power distance scores,

also indicates that PSE can be harmful for employees who grew up under high PPE. Across these two distinct cultures, the experience of PPE early in life can be reinforced by PSE later in life. Yet the findings also appear to reflect some cultural differences, in the different slopes for PPE and fear of failure. When PSE is low, rather than high, the slope is negative and non-significant in the pilot study with U.S. respondents but positive and weaker in the main study with a Chinese sample. We explicitly acknowledge the need for caution when trying to interpret non-significant results, but it might be that parents tend to have a more central role in their children's lives in Asian cultures. Having a perfectionistic parent could be a significant predictor of children's fear of failure. In the United States, the effects of parents' expectations may be less intense, so when life experiences do not get replicated at work, fear of failure or creativity are not strongly affected by earlier perfectionistic parenting, resulting in a non-significant slope. Alternatively, these findings might arise because the measures in the pilot study are self-rated, creating a possible risk of memory bias, such that participants "forget" or become desensitized to earlier experiences.

Finally, parental availability and logistical challenges (e.g., some parents were traveling) limited us to surveying just one parent from each family. This respondent might be the most involved and influential parent or not. Efforts to collect data from both parents could allow researchers to explore how different combinations of parental styles (e.g., "tiger mom" and "panda dad") uniquely influence workplace creativity. In addition, further research might examine perfectionistic expectations expressed by other influential figures, such as coworkers or teachers at school.

#### **4.4. Conclusions**

In the quest to get the best from those for whom they are responsible, some parents and leaders alike seek and expect perfection. Yet our research shows that rather than success, in the form of creativity, a fear of failure emerges as the most salient consequence. When



work repeats parental interactions, it reinforces employees' schemas and fears, ultimately reducing their creativity.

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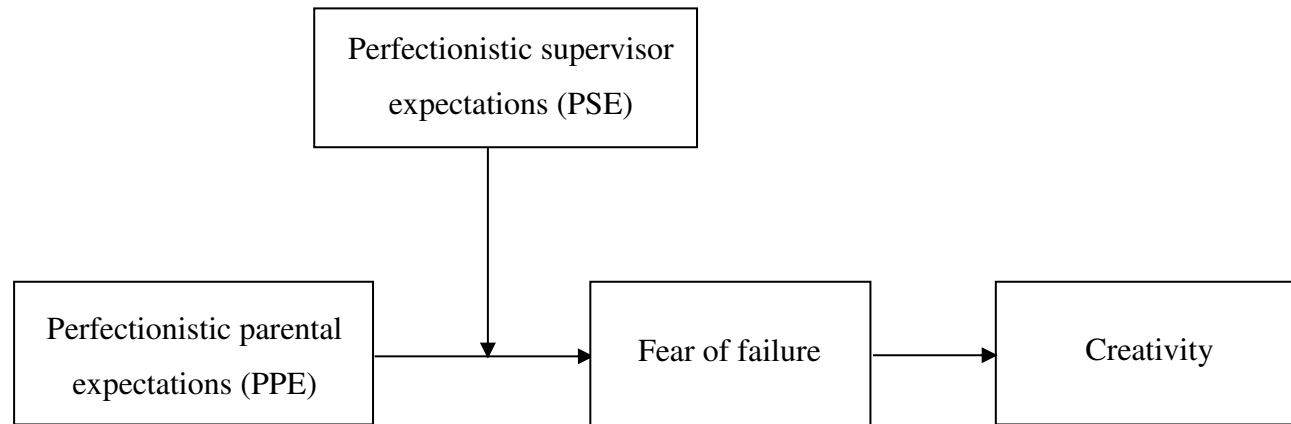


Figure 1. Theoretical model

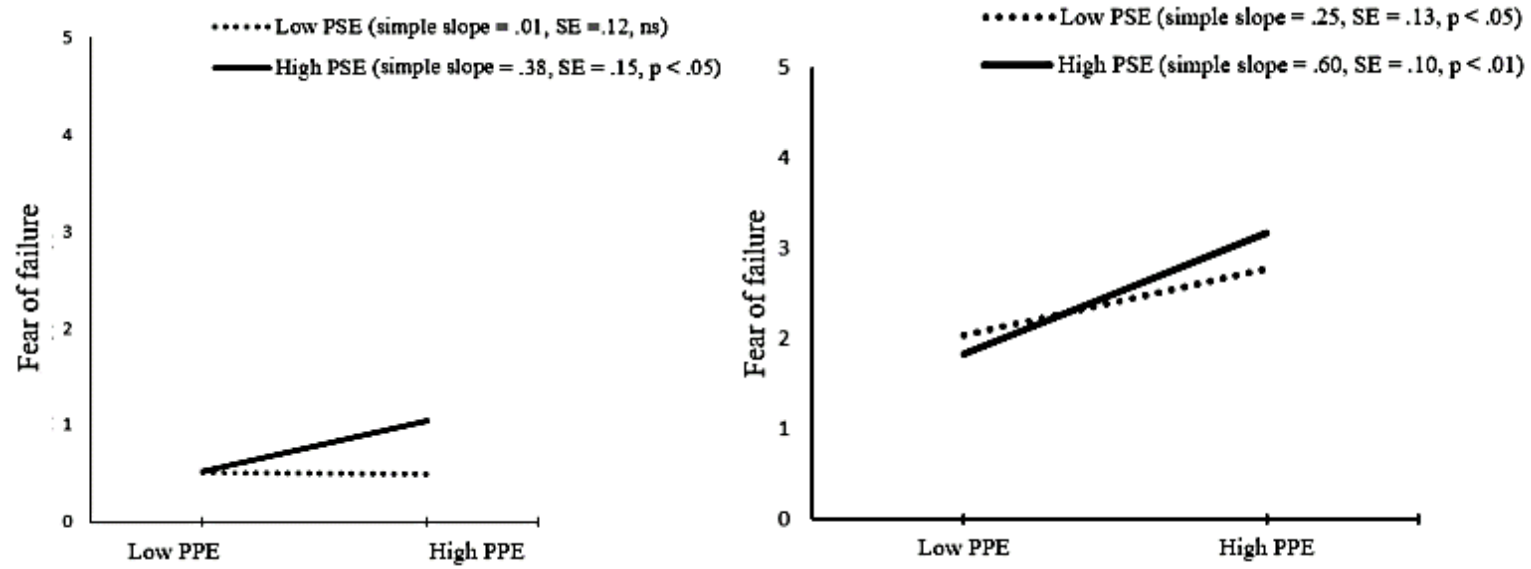


Figure 2. The interaction of parental- and supervisor perfectionistic expectations on fear of failure in the pilot- and main study

Table 1. Pilot study: Descriptive statistics and correlations

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	41.15	10.07								
2. Gender	.43	.50	.10							
3. Organizational tenure	8.34	6.68	.45**	.08						
4. Supervisor–employee dyadic tenure	5.04	4.23	.39**	.13	.62**					
5. Self-concordance	5.07	1.55	.13	.02	.11	.17*				
6. PSE	5.01	1.07	.06	.10	.04	.06	.21**			
7. PPE	4.47	1.23	-.04	.04	-.01	-.13	.18**	.32**		
8. Fear of failure	4.32	1.55	-.19**	.30**	-.09	-.16*	-.19**	.12	.10	
9. Creativity	4.48	1.30	.02	-.08	.01	.04	.55**	.17*	.19**	-.33**

Notes: Gender was coded as 0 = male, 1 = female. PSE = perfectionistic supervisor expectations, PPE = perfectionistic parental expectations.

\* $p < .05$ . \*\* $p < .01$ .

Table 2. Pilot study: Unstandardized estimates (standard error) of the moderated mediation path model

	Fear of failure	Creativity
Constant	.75 (.59)	2.95** (.43)
<b>Control variables</b>		
Age	-.03** (.01)	-.01 (.01)
Gender	.99 **(.20)	-.02 (.05)
Supervisor–employee dyadic tenure	-.06* (.03)	-.01 (.02)
Organizational tenure	.02 (.02)	-.00 (.01)
Self-concordance	-.19** (.06)	.41** (.05)
<b>First-stage link &amp; interaction</b>		
PPE	.05 (.09)	.06 (.05)
PSE	.19 (.10)	.07 (.08)
PPE × PSE	.15* (.07)	.01 (.07)
<b>Second-stage link</b>		
Fear of failure		-.23** (.05)
$R^2$	.21** (.05)	.38** (.06)

Notes: Gender was coded as 0 = male, 1 = female.

\* $p < .05$ . \*\* $p < .01$ .

Table 3. Main study: Descriptive statistics and correlations

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Age	31.83	5.77									
2. Gender	.49	.50	.03								
3. Supervisor–employee dyadic tenure	4.22	3.74	.53**	-.03							
4. Organizational tenure	5.58	4.63	.62**	.01	.76**						
5. Self-concordance	5.53	1.17	.04	.06	.03	-.03					
6. Job categories	.79	.41	-.15**	.04	-.24**	-.13*	.03				
7. PSE	2.61	1.26	.03	.06	.07	.05	-.08	-.03			
8. PPE	3.68	1.84	.05	.04	.12*	.08	.01	-.10	.07		
9. Fear of failure	2.50	1.15	-.03	.03	.03	.00	-.03	.06	.53**	.09	
10. Creativity	5.01	1.34	-.04	.02	-.04	-.08	-.02	.03	-.36**	-.06	-.36**

Notes: Gender was coded as 0 = male, 1 = female. Employee job category was coded as 0 = R&D, 1 = non-R&D.

\* $p < .05$ . \*\* $p < .01$ .



Table 4. Main study: Unstandardized estimates (standard error) of the moderated mediation path model

	Fear of failure	Creativity
Constant	-.45 (.50)	3.89** (.73)
<b>Control variables</b>		
Age	.00 (.01)	.02 (.01)
Gender	.12 (.11)	.01 (.01)
Supervisor–employee dyadic tenure	.01 (.02)	.02 (.03)
Organizational tenure	-.01(.01)	-.04 (.03)
Job categories	.23 (.14)	.18 (.14)
Self-concordance	.02 (.04)	-.07 (.06)
<b>First-stage link &amp; interaction</b>		
PPE	.43** (.08)	-.23** (.06)
PSE	.04 (.03)	.00 (.04)
PPE × PSE	.09 *(.04)	-.09** (.04)
<b>Second-stage link</b>		
Fear of failure		-.20* (.10)
$R^2$	.31** (.08)	.22** (.06)

Notes: Gender was coded as 0 = male, 1 = female. Employee job category was coded as 0 = R&D, 1 = non-R&D.

\* $p < .05$ . \*\* $p < .01$ .