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Young people's perceptions of their parents' expectations and criticism are increasing over time: Implications for perfectionism

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Abstract

We recently found evidence for rising self-oriented, other-oriented, and socially prescribed perfectionism among young people from the United States, United Kingdom, and Canada (Curran & Hill, 2019). One reason why perfectionism is increasing may be that rising competitiveness and individualism are requiring parents to engage in anxious, overly involved, and/or overly controlling forms of parenting. Yet data to support this claim are limited and contested. In two meta-analyses, we expanded upon and tested this claim by examining whether excessive parental expectations and harsh parental criticism are correlated with perfectionism (Study 1), and whether these perceived practices are changing over time among American, Canadian, and British college students (Study 2). In study 1, meta-analyses found small-to-moderate positive mean weighted effects of parental expectations and parental criticism on self-oriented and other-oriented perfectionism, and large positive mean weighted effects of parental expectations on parental criticism with socially prescribed perfectionism. In study 2, using cross-temporal meta-analysis, we found that mean levels of parental expectations and parental criticism had linearly increased between 1989 and 2019 among college students. With rising competitiveness, individualism, economic inequality, and pressure to excel at school and college as the societal background, increases in excessive parental expectations and harsh parental criticism offer perhaps the most plausible explanation for rising perfectionism to date.

Public significance statement

Two meta-analyses support a possible explanation for rising perfectionism among young people: changing parenting practices. Parental expectations and criticism were positively correlated with perfectionism in meta-analysis one, and these practices were found to be increasing over time in meta-analysis two. The latter finding has especial public significance.

Rising expectations and criticism likely reflect one response parents are making to escalating societal competitiveness, individualism, inequality, and pressures to excel at school and college.

Perfectionism is a pressing societal concern. It contributes to several mental health difficulties and is increasing, with more young people reporting unrealistic expectations for themselves and others, and pressure to be perfect than ever before (Curran & Hill, 2019). In seeking to explain reasons for rising perfectionism, we have argued for several potential pathways. One of these was changing parenting practices. We believe that perfectionism may be rising because parents are responding to societal pressures with more anxious, controlling, and pressurised parenting. Data to support these ideas are limited and contested (Soenens & Vansteenkiste, 2019). Hence, we attempt to test our thinking by examining whether two forms of perceived controlling parenting, parental expectations and parental criticism, are correlated with perfectionism and whether these practices are changing over time.

Multidimensional perfectionism

Perfectionism is a multidimensional personality characteristic. It encapsulates a combination of excessively high personal standards and overly critical self-evaluations (Frost, Marten, Lahart, & Rosenblate, 1990). One of the most extensively tested theory of perfectionism is Hewitt and Flett's (1991) multidimensional model.[1] In this model, perfectionism is understood to have three core trait dimensions that are differentiated by the direction of perfectionistic beliefs and behaviors. Self-oriented perfectionism is perfectionism turned on the self and arises when individuals attach irrational importance to being perfect, hold unrealistic expectations of themselves, and are punitive in their self-evaluations. Socially prescribed perfectionism is perfectionism directed from others and reveals itself when individuals believe their social context

[1] Alongside Hewitt and Flett's (1991) model, there are other multidimensional models of perfectionism such as Frost et al (1990), which includes high personal standards, concern over mistakes, doubts about actions, organization, and two parenting antecedents (expectations and criticism). There are univariate models, too, that capture personal standards only, like Fairburn and colleagues' clinical measure (Fairburn, Cooper, & Shafran, 2003). We take Hewitt and Flett's approach in this paper because much evidence indicates that perfectionism is multidimensional and, of the multidimensional models, theirs is clinically informed and has good evidence for its basic theoretical tenets (see Hewitt et al., 2017).

is excessively demanding, that others judge them harshly, and that they must display perfection to secure approval. Other oriented perfectionism is perfectionism turned on others and is evident when individuals impose unrealistic standards on those around them and evaluate others critically.

All three of Hewitt and Flett's trait perfectionism dimensions give vulnerability to psychological difficulties. Socially prescribed perfectionism is especially harmful however since it includes profound interpersonal inferiority and preoccupation with concealing perceived defectiveness from others (Hewitt et al., 2017). These difficulties are evident in research indicating that socially prescribed perfectionism is positively associated with major psychopathology including anxiety, depression, and suicide ideation (e.g., Limburg, Watson, Hagger, & Egan, 2017; Smith et al., 2018). For self-oriented perfectionism, psychological difficulties arise as a function of tying self-worth to lofty achievement standards and the knock-on impact of failure (Hewitt & Flett, 1991). Like socially prescribed perfectionism, research shows self-oriented perfectionism to be positively associated with major psychopathology including depression, anorexia nervosa, and suicide ideation albeit to a lesser degree (e.g., Limburg et al., 2017; Smith et al., 2018). Other oriented perfectionism, unlike socially prescribed or self-oriented perfectionism, erodes social relations because of a tendency to criticize others and treat them with hostility and disdain (Hewitt et al., 2017). This is evident in research showing other-oriented perfectionism to be associated with higher narcissism, vindictiveness and hostility, as well as lower altruism, compliance, and trust (e.g., Stoeber, 2014, 2015; Smith et al., 2016).

Rising perfectionism among young people

Not only is perfectionism damaging to mental health and relationships, but it is also rising. In a recent cohort analysis, we found that American, Canadian, and British college students' reports of self-oriented, socially prescribed, and other-oriented perfectionism have significantly increased in the past two and a half decades (Curran & Hill, 2019). For self-oriented perfectionism and other-oriented perfectionism, the increases were modest: almost sixty percent of young people in 2016 were above typical levels in 1989. For socially prescribed perfectionism, the increase was far more sizeable. In 2016, sixty-six percent of young people were above the typical level in 1989. Alongside research documenting the harmfulness of socially prescribed perfectionism, we argued that this finding was especially important as it has the potential, at least in part, to explain allied increases in psychopathology currently being observed among young people (e.g., McManus et al., 2019; Sellers et al., 2019; World Health Organization, 2017).

When thinking about reasons for rising perfectionism, we took a broad cultural lens. We were guided in this direction by the seminal ideas of Karen Horney (1937, 1950), among others (e.g., Burns, 1980; Pacht, 1984), who has linked perfectionistic behavior to inner conflicts (i.e., between the actual and idealized self) and dictates (i.e., tyrannical shoulds) that originate from the social conditions outside of the individual. The conditions we emphasized as especially important and characteristic of modern-day culture were those created by the recent emergence of neoliberalism in the US, Canada, and the UK (i.e., governance committed to the imposition of market-based competition and reward into every sphere of life; Ostry, Loungani, & Furceri, 2016). With these changes as the societal background, we suggested three pathways that might explain rising perfectionism. The first was that neoliberalism amplifies competitiveness, individualism, and irrational ideals of perfectibility as desirable and obtainable goals. The second

pathway stressed the importance of meritocracy and the harmful messages that the hard work doctrine sends to young people about the link between their accomplishments and self-worth (especially in school and college). The third pathway focused on parents and described how competitive pressures create achievement anxieties that are passed down to young people through anxious and controlling forms of parenting.

Is parenting really a pathway?

In response to our theorizing, concerns have been mooted about the possible role of changing parenting practices in the rise of perfectionism (Soenens & Vansteenkiste, 2019). These concerns hinge on the specific nature of the parenting practices that are changing and whether they are contributing to the documented increases in perfectionism. In their response to our paper, Soenens and Vansteenkiste (2019) queried whether anxious and controlling parenting practices really were rising. They pointed out differences in aspects of parental control (as-structure versus as-pressure). They also provided evidence from the US and Sweden showing that the parental practices important to perfectionism, such as physical punishment and authoritarian parenting are in fact decreasing (see Ryan, Kalil, Ziol-Guest, & Padilla, 2016; Trifan, Stattin, & Tilton-Weaver, 2014). Soenens and Vansteenkiste concluded that if any form of parental control is rising, it is control-as-structure (i.e., rules and supervision) and that control-as-structure is not associated with perfectionism's development (Soenens Vansteenkiste, Luyten, Duriez, & Goossens, 2005).

We offered several counterarguments to Soenens and Vansteenkiste (Hill & Curran, 2019). As regards the studies used to support their argument that controlling parental practices important to perfectionism are decreasing, we argued that the political context (Sweden vs US, Canada, and the UK) and what is being measured (physical vs psychological control) need to be

considered. We foregrounded parenting data from North America because the perfectionism data came from North American (and British) college students and the relationship between parental expectations and anxious overparenting with perfectionism is better evidenced than that of physical punishment or authoritarianism (e.g., Akram, Ellis, Myachykov, Chapman, & Barclay, 2017; Fletcher, Pierson, Speirs Neumeister, & Holmes Finch, 2019; Flett, Sawatzsky, & Hewitt, 1995). We also took issue with the narrow definition of parental control (as-structure) offered by Soenens and Vansteenkiste. In the parenting literature, control is often defined in far broader terms and characterized by "parents' pressure, intrusiveness, and dominance" (Grolnick & Pomerantz, 2009, p.167). These characteristics are synonymous with the overly anxious and controlling parent behaviors that appear to be on the rise (e.g., Collishaw et al., 2006; Doepke & Zilibotti, 2019; Ramaey & Ramey, 2010) and that contribute to perfectionism's development (e.g., hostility, conditional regard, and harshness; Flett, Hewitt, Oliver, & Macdonald, 2002; Hewitt et al., 2017).

The main difference between our thinking and that of Soenens and Vansteenkiste, though, is the vantage point. We are attempting to place changes in parenting within a wider purview of cultural change. Doing so invariably means our focus is less on conceptual differences in (sub)definitions of control from one particular theoretical perspective and more on trying to understand how a shifting social environment can change parental behaviors broadly. When it comes to environmental change and parenting, our focus is on the influence of neoliberal ideals (primarily competitiveness and individualism). Not only do these ideals place pressure on young people to strive, achieve, and perfect themselves, we think that inevitably parents will respond by becoming increasingly concerned over their child's successes (and failures), raising their expectations for their children, and becoming excessively involved in their

children's lives. We expect the ways in which parents are responding to be complex and evident in a multitude of different ways including not just how they behave but also how they are perceived by their children.

Our ideas about culture, parenting, and perfectionism have so far rested on systems-level observational data. Although suggestive, these data provide only indirect support for our belief that changing parenting practices may be contributing to rising levels of perfectionism. In addition, as highlighted by our disagreement with Soenens and Vansteenkiste, this type of data rarely fits one particular theoretical position and can be interpreted in different ways. In what follows we provide a fuller theoretical account of our thinking concerning the role of changing parenting practices and rising perfectionism than we were able in our original paper. We then put these ideas to the test using empirical data at an individual-level by assessing the relationship between perfectionism and perceptions of parental behavior and whether we are seeing similar increases in these perceptions as observed for perfectionism.

The theoretical basis for changing parental practices in the rise of perfectionism

The role of parents in the development of perfectionism has a long history (e.g., Frost et al., 1991; Horney, 1950; Missildine, 1963). More recent theories draw from attachment theory and describe the development of perfectionism in terms of parent-child "asynchrony" (Hewitt et al., 2017). From this perspective, perfectionism emerges in response to parental socialization that only intermittently fulfills attachment needs of esteem and belonging. Germane to asynchrony is the (non)availability and (non)responsiveness of parents to such attachment needs. This mismatch need not be intentional and indeed is often inadvertent. Parental behaviors understood to promote asynchrony include pressurizing, punitive, and controlling socialization, which involves a combination of high expectations and harsh criticism (Flett et al., 2002). Such

practices encourage children pursue or present an idealized, perfect version of themselves, and engage in behaviors that are aimed at avoiding criticism and gaining approval of parents.

When describing rising perfectionism, our thinking took heed of Hewitt and Flett's ideas to suggest that anxious and controlling parenting may be one way neoliberalism is impacting on its increased prevalence (Curran & Hill, 2019). We considered the pressure to raise successful children in a neoliberal culture emphasizing merit, wealth, social standing and academic achievement to be especially noteworthy in this regard. We think of parents like Enrich Fromm (1944) did, that is, as society's psychological agents, passing on the dominant values and attitudes of society, such as faith in competition and meritocracy, as well as acting on their own perfectionism and achievement anxieties. The conditions are likely to manifest, for example, in excessive parental involvement in children's routines, schooling, and emotions (Belsky, 1984). We supported this thinking with data from the US showing that parental levels of surveillance (e.g., telling parents where they are and what they will be doing) and involvement in academic activities are on the rise (Collinshaw et al., 2012; Ramey & Ramey, 2010). Although not direct evidence for the link between changing parenting practices and rising perfectionism, these more intrusive practices, we argued, are likely to interfere with attachment needs and yield the parent-child asynchrony described by Hewitt and colleagues (2017).

In this paper, we advance our thinking one step further. With an emphasis on economic inequality, we suggest that the economics of neoliberalism are just as important as its cultural frames in explaining why parenting may be changing over time. We take our lead in this regard from Doepke and Zilibotti (2019), who suggest that inequality is fundamental to understanding child-rearing choices from one generation to the next, and parenting can, therefore, be studied as an artifact of economics (as well as culture). It is well documented that neoliberal

policymaking (e.g., low taxation, privatization, and deregulation) has ushered a sharp increase in economic inequality since the mid-1980s across the US, Canada, and the UK (Piketty, 2014). According to Doepke and Zilibotti (2019), widening gaps between the rich and poor mean parents are increasingly concerned that, without high expectations, close monitoring, and an emphasis on hard work, their children might fall behind and compromise their all-important social position.

Parental behaviors and the choices parents knowingly or unknowingly make regarding child-rearing, in this view, are rational given the economic environment they happen to inhabit. Parents are not to blame in this sense. They are simply part of an economy that provides both the backdrop and mechanism for socialization (Harris, 1998). It follows therefore that recent generations of parents will parent very differently than older generations by circumscribing their children's behaviors in new and important ways. With escalating inequality, downward mobility, and increasing returns to college education parents internalize anxieties associated with economic insecurity (Ehrenreich, 1989). The invariable response is higher demands, more intrusion, and a desire for greater levels of control over their children's lives (Doepke & Zilibotti, 2019). Although well-intentioned, we believe these behaviors are closely linked to the development of perfectionism.

The empirical basis for changing parental practices in the rise of perfectionism

Researchers have described the emergence of time-intensive, demanding, and controlling parenting in several ways. This includes phenomenon such as helicopter parenting (e.g., Nelson, Padilla-Walker, & Nielson, 2015), overinvolvement (e.g., Givertz & Segrin, 2014), and coddling (e.g., Lukianoff & Haidt, 2018). What these varied descriptions have in common is a recognition of how immersed parents have become in their children's lives. Across the US, Canada, and the

UK, these trends are evident in data showing that parents now spend approximately twice as much time with their children as they did fifty years ago (Sani & Treas, 2016). According to the American Time Use Survey, this translates to almost two hours of additional time that US parents spend with their children per day (Doepke & Zilibotti, 2019). As the number of children per family is declining across the US, Canada, and the UK, these differences are, in all probability, an underestimation at the per-child level.

Although true of most families, increasing time with children is especially evident among more privileged parents. American parents across the socioeconomic gradient spent approximately the same amount of time with their children in 1970. By 2012, well-educated parents were spending more than three hours longer with their children than less-educated parents (Doepke & Zilibotti, 2019). Well-educated parents invariably value academic achievement more and are thus far more likely to send their children to university (Chetty, Friedman, Saez, Turner, & Yagan, 2017). Their time spent with children on school activities like homework has increased sharply since the mid-seventies, from three hours a week in 1976 to eight hours a week in 2012 (Doepke & Zilibotti, 2019).

Time on schooling comes at the expense of time with children in leisure. According to Doepke and Zilibotti (2019), free playtime decreased by twenty-five percent between 1981 and 1997 among six-to-eight-year-old Americans. Likewise, research by economists Ramey and Ramey (2010) indicates that parents in the US have reallocated over nine hours per week from leisure time to childcare since the early 1990s, with two additional hours granted specifically to academic support. Post-hoc analyses revealed that these shifting priorities of childcare have occurred in tandem with escalating competition for college (Ramey & Ramey, 2010). A “rug rat race,” so to speak. The underlying message here, which could conceivably be inferred by

children, is that some activities are worthy of parental time (academic attainment) whereas as others are not (leisure).

Alongside the amount of time parents spend on academic activities, there is also evidence of parental values and styles have changed in recent years. Data from the World Values Survey, analyzed by Doepke and Zilibotti (2019), show that the extent to which American parents, when interviewed, mention that they value hard work from their children increased from thirty-nine percent to fifty-three percent between 1995 and 2011. Doepke and Zilibotti (2019) also documented significant increases in American parents' value of child obedience, a distinctive aspect of parental control, albeit to a lesser extent. Together these trends indicate that meritocratic values – hard work and dedication – are beliefs that parents increasingly promote to their offspring, as is compliance with these values.

Perhaps not surprisingly, these changing values coincide with a tumultuous period in which educational pressures are rising at a rapid rate (Luthar, Kumar, & Zillmer, 2020). A recent survey of over ten thousand US college students conducted by a non-profit organization called Challenge Success (2021) part way through the coronavirus pandemic, for example, found that young people were reporting far more stress about school than they did when the pandemic began. Students cited grades, workload, time management, lack of sleep, and college fears as triggers. But the main culprit, according to young people, was achievement expectations from parents. Fifty-seven percent of young people said that their parents' achievement expectations did not drop during the pandemic, while thirty-four percent said their expectations increased.

Alongside more emphasis on work ethic and higher achievement expectations, parental monitoring, surveillance, and anxious rearing are also seemingly on the rise. According to Collinshaw et al.'s (2012) YouthTrends survey, American youth reporting that their parents

routinely ask who they were with, and what they were doing outside of the home, increased from sixty-seven to seventy-seven percent between 1986 and 2006. A related pattern of increased monitoring and surveillance has been observed throughout the 1990s in the UK's British Household Panel Survey (Office of National Statistics, 2009). Like the YouthTrends data, the British Household Panel Survey shows significant declines in children being permitted to stay out late without parents knowing where they are or what they are doing. More recent data compiled by the Policy Studies Institute indicates that while almost nine in every ten British children were permitted to travel to school alone in 1971, just over two in ten could do so in 2010 (Shaw, Bicket, et al., 2015).

One of the most interesting things about these parenting trends is that they are far less apparent in countries where inequality is lower. Doepke and Zilibotti's (2019) found a large positive correlation between the Gini coefficient (a measure of inequality) and parental value of hard work and obedience in the World Values Survey. Some of the between-country differences in this analysis were especially instructive. Less than fifteen percent of parents in Sweden and Norway, which belong to a group of most equal OECD countries, say they value hard work from their children. By contrast, up to half of the parents in the US, Canada, and the UK value the same characteristic. Coupled with evidence showing that parental value of obedience and hard work is correlated with other aspects of neoliberal policymaking, such as tax progressivity, these data substantiate the idea that changes in parenting are rooted in the cultural and economic environment of a particular country at a particular period of time.

The present set of studies

Data on changing parenting priorities and practices are suggestive. However, they provide only indirect support for our thinking that parenting may be one pathway linking

neoliberalism to rising perfectionism. In the present study, we test this idea by examining generational differences in perceptions of parental socialization that are specifically related to perfectionism. To do so, we identified two parenting practices included in the Frost Multidimensional Perfectionism Scale (F-MPS) that are closely matched to parenting practices in models of perfectionism development and resemble those parenting practices that are seemingly on the rise (Frost et al., 1990). The first, parental expectations, is a demanding parenting practice emphasizing the attainment of perfectionistic standards and expectations. The second, parental criticism, is a harsh parenting practice that includes tendencies for punitive socialization in response to child displays of imperfection. The F-MPS items used to measure these parenting perceptions are listed in Table 1.

Parental expectations and parental criticism are influential in the development of perfectionism. In line with Hewitt et al.'s (2017) concept of asynchrony, perceptions of these socialization practices yield parent-child asynchrony by blocking attachment needs. For parental expectations, excessive standards mean children rarely reach the heights of achievement necessary for good parental regard. Perfectionism emerges as children take on a sense of self-esteem and belonging that are conditioned on excessive achievement standards and the validation of parents (Flett et al., 2002). For parental criticism, harsh punishment for mistakes means that children rarely feel a secure sense of belonging or a lasting sense of adequacy. Perfectionism develops as children seek escape from the shame and rejection that follow their parents' punitive judgment (Flett et al., 2002). In support of these ideas, correlational studies link perceived parental expectations and criticism to the development of self-oriented, socially prescribed, and other-oriented perfectionism (see Flett et al., 2002 and Hewitt et al., 2017 for reviews).

Not only are perceived parental expectations and parental criticism influential in the development of perfectionism, but they also resemble behaviors and values that appear to be on the rise. For parental expectations, the rising value of hard work, perceptions of parental pressure, and increased time parents are spending with their children on academic activities are suggestive of increasing (achievement) goals and standards. In the case of parental criticism, the rising value of child compliance, monitoring, and surveillance is suggestive of increasing anxious overprotection and stringent control. The extent to which these changing values and behaviors can be extrapolated to *excessive* demands and criticism, of course, is unclear. But with rising inequality and escalating competition in school and college as the backdrop, there is good reason to think that parental expectations and criticism would be reported as increasingly excessive by young people.

Across the present set of studies, then, we further test our ideas regarding the role of changing parenting practices in rising perfectionism. In study one, we provide a meta-analytic review of research examining the correlations of perceived parental expectations and parental criticism with self-oriented, socially prescribed, and other-oriented perfectionism to ascertain the direction and strength of relationships. Based on theory and research, we expect parental expectations and parental criticism to positively correlate with all dimensions of perfectionism. In study two, we test for generational changes in perceptions of parental expectations and parental criticism using a cross-temporal meta-analysis of American, Canadian, and British college students' responses to the F-MPS (Frost et al., 1991). In line with the theoretical and empirical evidence provided above, we expect that more recent cohorts of college students would report higher levels of parental expectations and parental criticism.

Study 1

The purpose of Study 1 was to examine the correlations of perceived parental expectations and parental criticism with self-oriented, socially prescribed, and other-oriented perfectionism. Extant research documents small-to-moderate positive relationships between these variables in samples of children, college students, and inpatients (e.g., Cox & Enns, 2003; Damian et al., 2013; Dunkley, Zuroff, & Blankstein, 2006). However, to date, this literature is yet to be pooled, and effects aggregated, to arrive at summary estimates of effect size. We, therefore, conduct a meta-analysis of relationships between perceived parental expectations and parental criticism and the dimensions of perfectionism. Based on theory and research, we expect parental expectations and parental criticism to positively correlate with self-oriented, socially prescribed, and other-oriented perfectionism.

We also tested for the moderation of effects by year of data publication, age (mean age of sample), gender (percentage of females in the sample), and setting (clinical vs non-clinical sample). We tentatively hypothesized that effect sizes may be larger in more recent and younger samples. This is due to two factors. First, because perfectionism is higher among younger people and rising over time, younger and more recent samples may show larger effects. Second, as people get older so the influence of parenting on their perfectionism may wane meaning older samples might show smaller effects. In the case of gender, we hypothesized that effects would be larger among males because there is evidence that males typically report greater perceptions of parental control than females (Barber & Harmon, 2002). Finally, we expected that the effects would be larger in clinical samples than in non-clinical samples based on meta-analytic data showing relationships between perfectionism and psychopathology are larger in clinical samples (Limburg et al., 2017).

Method

Literature search. An electronic literature search was conducted using PsycINFO, PsycARTICLES, MEDLINE, Google Scholar, and ProQuest Dissertations & Theses (American & International and the United Kingdom & Ireland). The search terms used were "Multidimensional Perfectionism Scale" AND "parental expectations" OR "parental criticism" AND "self-oriented" OR "socially prescribed" OR "other-oriented". We also conducted a cited search of the F-MPS and the Hewitt and Flett Multidimensional Perfectionism Scale (HF-MPS) papers in Web of Science[2] (i.e., "Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive therapy and research, 14,* 449-468." AND "Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of personality and social psychology, 60,* 456-470.") The period of each search spanned publications between January 1989 and November 2020. No other restrictions were placed on the searches. This initial literature search yielded 1,773 studies. Once duplicates were removed and abstracts were screened for relevance (e.g., empirical studies of perfectionism), 353 studies remained (6 theses and 347 journal articles). Next, we embarked on a full-text review of the retrieved papers to further screen for relevance. Following the full-text review, 57 papers remained (6 theses and 51 journal articles).

A manual search followed the electronic search. The reference lists of the articles identified in the electronic search were inspected to identify additional articles. In addition, authors with 2 or more articles retrieved in the electronic literature search were emailed to enquire about the possession of any unpublished studies/data sets that included correlations of

[2] The database we accessed for Web of Science was the Web of Science Core Collection. It includes the; (a) Science Citation Index Expanded, (b) Social Sciences Citation Index, (c) Arts & Humanities Citation Index, (d) Conference Proceedings Index – Science, (e) Conference Proceedings Index – Social Science & Humanities, and (f) Emerging Sources Citations Index.

parental expectations and criticism with self-oriented, socially prescribed and other-oriented perfectionism, as well as any clarifications regarding missing information. Five authors were contacted on this basis, but none responded to our request within 8 weeks of the initial email (our stated deadline). In total, the electronic and manual literature search yielded 51 studies/data sets for reduction using the inclusion criteria. Literature searches and study screenings were conducted by the first author, who has a Ph.D. in psychology and is a regular contributor to research on perfectionism.

Inclusion criteria. Studies were included in the meta-analysis if they: (a) measured parental expectations and/or parental criticism using the F-MPS Scale; (b) measured any of the perfectionism dimensions from the HF-MPS; (c) included an effect size (i.e., correlation coefficient) or sufficient information for estimation of effect size; (d) were published in English; (e) were a published journal article, thesis/dissertation, or conference presentation; and (f) included a sample that was not replicated elsewhere (e.g., included in both a journal article and a thesis/dissertation). When this was the case, only the most complete and recent account of the sample/data was used. Of noting, one study split self-oriented perfectionism into two sub-dimensions (striving and critical) and therefore we averaged the two correlations between these two sub-dimensions and each parenting perception to arrive at a single estimate (Harvey, 2017). Finally, in studies where the effect sizes were not reported, we emailed the corresponding author to request this information. Thirty-five authors were contacted on this basis, but none responded to our request within 8 weeks of the initial email (our stated deadline). On 09/07/2021, we ended our searches and requests for missing information to instigate data reduction and analysis. The implementation of the inclusion criteria resulted in the final inclusion of 21 studies/data sets reporting 114 effect sizes capturing the relationship between perceptions of parenting and

perfectionism (see Figure 1). These data sources are marked with an asterisk (*) in the references section.[3]

We coded studies that met the inclusion criteria using a coding sheet that included: (a) the study reference, (c) the effect size (Pearson's *r*), (f) the sample size, (d) the internal reliability of the measurement scales, (g) the setting of study, (h) the mean age of participants, (i) and the percentage of females in the sample, and (j) the inter-correlation of parental expectations and parental criticism. The first author coded effect sizes and moderators. Then, the second author did the same with studies retrieved from the electronic literature search. Based on this double-coding, an interrater reliability percentage was calculated. It showed 98.13% agreement (Cohen's kappa = 0.96). Where the two raters disagreed, resolution was achieved by reference to the primary source.

Meta-analytic procedures. We conducted meta-analyses using random-effects models in the metafor R package (Viechtbauer, 2010). Random-effects models assume variation in effect size between studies is due to both sampling error and a true random variance arising from differences between studies in terms of their procedures and settings (as opposed to just sampling error stipulated in fixed-effects models; Lipsey & Wilson, 2001). Effect sizes were estimated using correlation coefficients (i.e., Pearson's *r*). As is conventional in random effect models, effect sizes were first transformed into Fisher's *z*, meta-analyzed, and then back-transformed so that the weighted mean effect sizes and confidence intervals can be expressed in terms of *r*. Effect sizes are deemed statistically significant when their 95% confidence intervals exclude a zero, or null, effect.

[3] Descriptive information and effect sizes for the included studies can be found in the supplementary material Table 1.

We also meta-analyzed effect sizes corrected for measurement error (r_c; Schmidt & Hunter, 2015). We used the correlation coefficient for each pair of variables and the reliability coefficient for each variable (Cronbach's α) to calculate r_c with the following formula:

$$r_c = \frac{rxy}{\sqrt{rxx * ryy}}$$

Here, r_c is the corrected estimate of the correlation coefficient, *rxy* is the correlation coefficient between predictor (parenting) and outcome (perfectionism), *rxx* is the reliability coefficient for the predictor, and *ryy* is the reliability coefficient for the outcome. Where reliability coefficients were not reported, we imputed the grand mean for the respective sub-scales. Calculated this way, effect sizes reflect the correlation coefficient corrected for measurement error using the artifact distributions of the reliability coefficients.

Alongside the measurement-error corrected correlation coefficients, we also meta-analyzed the measurement-error corrected partial correlation coefficients. Partial correlation coefficients are the unique relationships between the parenting practices and perfectionism dimensions, unique in the sense that the shared variance between the parenting dimensions is removed from the correlation coefficient with the following formula:

$$pr_{c1,2.3} = \frac{r_{c1,2} - (r_{c1,3} * r_{c2,3})}{\sqrt{1 - r_{c1,3}^2} * \sqrt{1 - r_{c2,3}^2}}$$

Here, $pr_{c1,2.3}$ is the measurement-error corrected estimate of the correlation coefficient between the parenting variables (r_{c1}) and the perfectionism variable (r_{c2}) controlling for the other parenting variable (r_{c3}). Calculated this way, effect sizes reflect the correlation coefficient corrected for measurement error between residualised parenting and residualized perfectionism.

We opted to use Cochran's (1954) total *Q* and Higgins and Thompson's (2002) I^2 to quantify the degree of between-study heterogeneity in effect sizes. The former is a chi-square

statistic that quantifies the total variance in the meta-analysis whereas the latter is the percentage of variance in the meta-analysis that is explained by between-study differences. A statistically significant total Q is understood to reflect substantial heterogeneity in effect sizes and I^2 proportions of 25%, 50%, and 75% represent low, moderate, and high heterogeneity, respectively (Higgins, Thompson, Deeks & Altman, 2003). Alongside these metrics, we also report the total between-study variance, or tau squared (τ^2).

Where there was significant between-study heterogeneity, we used metaregression to conduct moderator analyses with the year of data collection, age, gender and setting (clinical vs non-clinical) as potential moderating factors. In this analysis, the year of publication, the percentage of females, and the mean age of participants in each sample were treated as continuous variables. Setting was included as a categorical variable (non-clinical = 0, clinical = 1). We took a significant beta coefficient at the $p < .05$ level to be indicative of moderation.

Finally, publication bias was estimated using the trim and fill procedure (Duval & Tweedie, 2000), Begg's rank test (Begg & Mazumdar, 1994), and Egger's regression test (Egger, Davey Smith, Schneider, & Minder, 1997). The trim and fill procedure estimates the number of studies (k) missing from the funnel plot distribution due to funnel plot asymmetry and then imputes those missing studies to recalculate the effect size. A difference of > .05 in the effect size (i.e., observed vs imputed) is indicative of a significant number of k studies missing from either side of the distribution. Begg's rank test examines the correlation between effect size and sampling variance, whereas Egger's test regresses the effect size on its standard error. In both cases, a significant relationship ($p < .05$) between effect size and the precision of effect size implies publication bias.

Results

Study Characteristics. This study included 21 independent studies involving 7,060 participants. Of these 21 studies, 17 were published in peer-reviewed journals and 4 were unpublished theses. The studies were conducted between 1991 and 2020. The average age of participants ranged from 9.83 to 43.60 years (M = 23.81, SD = 8.75). Six studies used clinical samples and 15 used non-clinical samples. The percentage of females in each sample ranged from 6.18 to 100.00 percent (M = 65.84, SD = 22.71). Descriptive statistics are summarized in Table 2.

Preliminary analysis. Before our primary analyses, effects sizes were standardized and screened for extreme outliers. We did this to identify probable reporting errors in the original studies and to reduce the statistical complications created by extreme outliers in regression analyses (Osbourne, 2008). We deemed a data point to be an extreme outlier when it would be randomly sampled less than one time in a thousand (Tabachnick & Fidell, 2007; $Z > \pm 3.29$, $p < .001$). No outliers were detected across all sets of effect sizes.

Overall effect sizes. The mean weighted correlations between perceptions of parenting and the dimensions of perfectionism are reported in Table 3. Parental expectations shared a small-to-moderate positive relationship with both self-oriented ($r^+ = .33$, $r_c^+ = .39$, $p < .001$) and other-oriented perfectionism ($r^+ = .22$, $r_c^+ = .27$, $p < .001$). Notably, it shared a large positive relationship with socially prescribed perfectionism ($r^+ = .57$, $r_c^+ = .67$, $p < .001$). Similarly, parental criticism displayed small positive relationships with self-oriented ($r^+ = .20$, $r_c^+ = .25$, $p < .001$) and other-oriented perfectionism ($r^+ = .14$, $r_c^+ = .17$, $p < .001$). Like parental expectations, parental criticism shared a large positive relationship with socially prescribed perfectionism ($r^+ = .53$, $r_c^+ = .64$, $p < .001$).

Partial correlations. The mean weighted measurement-error corrected partial correlations between perceptions of parenting and the dimensions of perfectionism are also reported in Table 1. A slightly different pattern emerged in this analysis. The positive correlations between parental expectations and all perfectionism dimensions remained significant when controlling for parental criticism. The positive relationship between parental criticism and socially prescribed perfectionism also remained when controlling for parental expectations. However, relationships between parental criticism and self-oriented perfectionism and other-oriented perfectionism were rendered negligible in the presence of parental expectations.

Moderation analyses. Effect sizes exhibited moderate-to-large heterogeneity across all sets of correlations (see Q, I^2, and τ^2 in Table 3). As such, we added our continuous (year, mean age, and percentage of females) and categorical (setting) moderator variables to a metaregression model of each effect size to ascertain whether they could explain such between-study variance. Year of publication moderated the correlation of parental expectations and parental criticism with self-oriented perfectionism, such that more recent years were correlated with larger effect sizes (parental expectations, $b = .01$, $p < .01$; parental criticism, $b = .01$, $p < .01$). Furthermore, the percentage of females moderated the correlation of parental expectations with self-oriented perfectionism, such that effect sizes were larger when the sample contained more males ($b = -.001$, $p < .05$). No other moderation effects emerged.[4]

Publication bias. The trim and fill procedure, Begg's rank test, and Egger's regression test were employed to detect publication bias. As regards the trim and fill procedure, none of these relationships exhibited a greater than .05 difference between the mean weighted effect size and imputed mean weighted effect size. Likewise, Begg's rank test indicated no significant

[4] The results of these analyses are reported in Table 2 of the supplementary materials.

correlations between effect sizes and sample variances. Egger's regression test, however, suggested the potential for publication bias in three of the six correlations (see Table 3). Of these, the imputed effect sizes from the trim and fill procedure suggested an overestimation of one effect size (parental criticism and self-oriented perfectionism) and an underestimation of two effect sizes (parental criticism and socially prescribed perfectionism and parental expectations and socially prescribed perfectionism). We discuss the implications of these findings in the discussion.

Study 2

In Study 1, we pooled correlations of perceived parental expectations and parental criticism with the dimensions of perfectionism. Analyses offered several important findings. Parental criticism and parental expectations shared large positive mean weighted correlations with socially prescribed perfectionism. These correlations were evident at the bivariate level and when the shared variance in the parenting dimensions was removed from the estimates. The bivariate correlations of parental expectations and parental criticism with self-oriented and other-oriented perfectionism were also positive, albeit to a lesser degree. While relationships between parental expectations and all perfectionism dimensions remained when controlling for parental criticism, relationships between parental criticism and self-oriented and other-oriented perfectionism were substantially reduced when controlling for parental expectations. What is shared between parental criticism and self-oriented and other-oriented perfectionism, therefore, seems to be explained by the relationship between parental expectations and parental criticism.

There was significant study-to-study variability in these effect sizes. Follow up moderation analyses uncovered some sources of this variability. Relationships between both parenting practices and self-oriented perfectionism were larger in more recent years. Similarly,

the correlation of parental expectations with self-oriented perfectionism was greater among males. We consider the implications of these findings in the discussion.

As study 1 indicated that parental expectations and parental criticism are positively correlated with the dimensions of perfectionism, a logical next step in this line of inquiry is to ascertain whether these parenting practices are changing over time. In Study 2, then, we examine cohort differences in perceptions of parental expectations and parental criticism using a cross-temporal meta-analysis of American, Canadian, and British college students' responses to the F-MPS. Since there is evidence that parental expectations and parental criticism items can load on a one factor, parental pressure, we also combined expectations and criticism to examine whether this factor was increasing, too (Harvey, Pallant & Harvey, 2004).

Cross-temporal meta-analysis tests the weighted correlation of mean parental expectations, parental criticism, and parental pressure scores, on the one hand, and year of data collection, on the other hand. As college students are approximately the same age, data collected from the F-MPS at different time points yields a test of potential birth cohort differences. In this way, we can establish how perceptions of parental expectations, parental criticism, and their combination – parental pressure – have changed since the late 1980s. In line with the theory and research presented earlier, we expect that year of data collection would be positively correlated with perceptions of parental expectations, parental criticism, and parental pressure (i.e., we would observe mean scores increasing over time).

Method

Literature search. Akin to study one, an electronic literature search was conducted using PsycINFO, PsycARTICLES, MEDLINE, Google Scholar, and ProQuest Dissertations & Theses (American & International and the United Kingdom & Ireland). The search terms used were "the

dimensions of perfectionism" AND "Frost" AND "parental expectations" OR "parental criticism". We also conducted a cited title search of the Frost Multidimensional Perfectionism Scale paper in Web of Science.[5] The period of each search spanned publications between January 1989 and July 2021. No other restrictions were implemented. This initial literature search yielded 743 studies. Once duplicates were removed and abstracts were screened for relevance (e.g., empirical studies of perfectionism), 300 studies remained (10 theses and 290 journal articles). Next, we embarked on a full-text review of the retrieved papers to further screen for relevance. Following the full-text review, 176 papers remained (10 theses and 166 journal articles).

A manual search followed the electronic search. The reference lists of the articles identified in the electronic search were inspected to identify additional articles. In addition, authors of 2 or more articles retrieved in the literature search were emailed to inquire about the possession of any unpublished studies/data sets that included the Multidimensional Perfectionism Scale and college students (e.g., conference papers). Fifty-eight authors were contacted on this basis and 1 responded to our request with new data within 8 weeks of the initial email (our stated deadline). The manual search resulted in the addition of 7 new data points (6 theses and 1 new data). In total, the electronic and manual literature search yielded 183 studies/data sets for reduction using the inclusion criteria. All literature searches and study screenings were conducted by the first author, who has a Ph.D. in psychology and is a regular contributor to research on perfectionism.

[5] The database we accessed for Web of Science was the Web of Science Core Collection. It includes the; (a) Science Citation Index Expanded, (b) Social Sciences Citation Index, (c) Arts & Humanities Citation Index, (d) Conference Proceedings Index – Science, (e) Conference Proceedings Index – Social Science & Humanities, and (f) Emerging Sources Citations Index.

Inclusion criteria. For inclusion in the analysis, a study or data set had to report the total score (all items added together) or mean score (all items added together divided by the number of items) and standard deviation (*SD*) of at least one parental subscale of the F-MPS (i.e., parental expectations or parental criticism), and meet the following criteria: (i) participant mean age was within typical undergraduate range (i.e., between 18 and 25 years), (ii) participants were attending a college or university in the US, Canada, or the UK, (iii) participants were not selected based on criteria relating to the Multidimensional Perfectionism Scale (e.g., scoring high or low on a Multidimensional Perfectionism Scale subscale), (iv) if an experimental study, the experimental manipulation did not affect Multidimensional Perfectionism Scale scores (only scores taken before any manipulation were included), and (v) the study included a sample that was not replicated elsewhere (studies/datasets were included only once).

The parental expectations and parental criticism subscales of the F-MPS contain 9 items (5 items for parental expectations and 4 items for parental criticism) and a 5-point Likert scale response format. Numerous studies reported F-MPS scores for males and females only. On these occasions, we calculated weighted grand means for the overall sample (i.e., pooled male and female scores). Furthermore, authors typically reported the total score of the subscales for parental expectations and parental criticism. For ease of interpretation, when this was the case, we divided these sums and *SD*s by the number of items in the respective subscales to put the scores back into their item-level units.

One study used a six-item short version of parental expectations (3-items) and parental criticism (3-items) subscales (Burgess, DiBartolo, & Rendon, 2017). In this case, we divided the total score and *SD*s by 3 to provide a comparable mean score. When the F-MPS was used but the subscale totals or mean scores were not reported, we emailed authors to request this information.

Fifty-eight authors were contacted on this basis and 7 responded to our request within 8 weeks of the initial email (our stated deadline). Finally, to create a parental pressure mean score and *SD* we divided the item-level parental expectations and parental criticism scores and *SD*s by two.

To code the year of data collection, we adhered to the following procedure: (i) if the year of data collection was described in the study, we coded it as such, (i) if we retrieved data from authors, we asked them to report when it was collected, and (iii) otherwise, the year of data collection was coded 2 years before publication. This is a strategy that is common in similar meta-analyses (e.g., Curran & Hill, 2019; Twenge, Konrath, Foster, Campbell, & Bushman, 2008). We also coded the percentage of females in each sample and country of data collection as control variables. On 09/07/2021, we ended our searches and requests for missing information to instigate data reduction and analysis. The implementation of the inclusion criteria resulted in the subsequent coding of 82 studies with 84 datasets, comprising a total of 23,975 college students (67% female, M_{age} = 20.35), reporting 82 mean scores for parental expectations, 83 mean scores for parental criticism, and 81 mean scores for parental pressure (see Figure 1). These data sources are marked with an obelisk (†) in the references section.[6]

The first author coded effect sizes. Then, the second author did the same with studies retrieved from the electronic literature search. Based on this double coding, an interrater reliability percentage was calculated. It showed 98.08% agreement (Cohen's kappa = 0.96). Where the two raters disagreed a resolution was achieved by reference to the primary source.

Meta-analytic procedures. To examine whether sample means for parental expectations and parental criticism have changed over time, we conducted metaregression analyses using the

[6] Descriptive information and effect sizes for the included studies can be found in the supplementary material Table 3.

metafor R package (Viechtbauer, 2010). For all analyses, the year of data collection was entered as the predictor, and respective scale mean scores were the criterion (Model 1). To allow for between-sample residual heterogeneity, random effects metaregression models were employed with an additive between-sample variance component (τ^2) derived from restricted maximum likelihood estimation (see Thompson & Sharp, 1999). Alongside estimated τ^2, we calculated I^2 values for each metaregression model to quantify the proportion of observed effect size variance due to between-sample heterogeneity.

To control for the possibility that differences in parental expectations and parental criticism are explained by salient confounds, we added several covariates to our random-effects metaregression models. First, we controlled for economic inequality by including the World Bank's (2018) Gini index for the years covering the period of study (Model 2). The Gini index is a widely used measure of income inequality that ranges from zero (perfect equality) to one hundred (perfect inequality). In the World Bank data, some time series are missing. Where the Gini index was missing for a particular country in a particular year, we imputed the nearest available year.

Next, we controlled for the country of data collection by including two dummy categorical variables (Model 3). The first, USA, reflected the USA vs others contrast (coded USA = 1, UK and Canada = 0) and the second, UK, reflected the UK vs others contrast (coded UK = 1, USA and Canada = 0). When these dummy variables were entered into the metaregression model Canada was the reference group. Finally, we controlled for the percentage of females in each sample and the mean age of participants by including them as continuous variables (Model 4).

Following the metaregression analyses, we also computed the effect sizes for the overall change in parental expectations and parental criticism across time. To do so, we used regression equations ($y = bx + c$) to derive predicted scores for the first year of our dataset (1989) and the present day (2019). When the predicted parental expectations, criticism, and pressure means for the first year of data collection are subtracted from the predicted means for the present day and divided by the weighted-average of within-sample *SD*s, the resulting product quantifies the change in terms of units of *SD* (i.e., Cohen's *d*; Twenge, 2001). Effect size magnitude was estimated using conventional standards (small, $d = 0.20$; medium, $d = 0.50$; large, $d = 0.80$; Cohen, 1992).

Results

Study Characteristics. This study included 84 independent studies, reporting 165 independent means, involving 23,975 college students. Of these 84 studies, 66 were published in peer-reviewed journals and 16 were unpublished theses. The studies were conducted between 1991 and 2021. The average age of participants ranged from 18.28 to 23.66 years ($M = 20.30$, $SD = 1.10$). The percentage of females in each sample ranged from 0.00 to 100.00 percent ($M = 66.87$, $SD = 23.96$). The mean sample size was 260 and the mean year of data collection was 2017. Studies reported mean parental expectation scores of 3.08 (SD = .20) and mean parental criticism scores of 2.25 (SD = 0.28). Descriptive statistics are summarized in Table 4.

Preliminary analysis. For the same reasons outlined in study one, mean scores for parental expectations and criticism were standardized and screened for extreme outliers (Tabachnick & Fidell, 2007; $Z > \pm 3.29$, $p < .001$). Two extreme outliers were detected and, following the recommendations of Osbourne (2013), were removed from all analyses (parental expectations $k = 0$; parental criticism $k = 2$). The mean sample size was 260 and the mean year of

data collection was 2017. Studies reported mean parental expectation scores of 3.08 (*SD* = .20) and mean parental criticism scores of 2.25 (*SD* = 0.28).

Primary analysis. To examine the effect of time on perceptions of parenting, we conducted several random effects metaregression models for parental expectations, parental criticism, and parental pressure. Results are summarized in Figure 3.

Parental expectations. The results of cross-temporal meta-analyses for parental expectations are displayed in Table 5 and Figure 2. We first tested a simple random effects metaregression model including the year of data collection (time) as a single covariate (Model 1). Here, time explained a significant amount of variance in parental expectations scores (R^2 = .27, Q_{model} = 26.72, df = 1, p < .001). Inspection of the metaregression coefficient revealed that time positively predicted parental expectations scores (β = .49, p < .001). The positive sign of the metaregression coefficient is consistent with the interpretation that more recent generations of college students reported higher perceptions of parental expectations than older generations of college students.

Next, we added the Gini index alongside time in a second multiple random effects metaregression model (Model 2). A significant portion of model variance was explained by the covariates in this model (R^2 = .33, Q_{model} = 37.43, df = 2, p < .001). The significant metaregression coefficient of time remained in this model (β = .44, p < .001). In addition, the Gini index also predicted parental expectations (β = .28, p = .004). The positive sign of the metaregression coefficient for the Gini index is consistent with the interpretation that greater income inequality is associated with higher levels of perceived parental expectations.

Then we added the country covariates alongside time in a third multiple random effects metaregression model (Model 3). A significant portion of model variance was explained by the

covariates (R^2 = .39, Q_{model} = 49.48, *df* = 4, *p* < .001). A significant coefficient of time remained (β = .49, *p* < .001), but the Gini index was not a significant predictor of parental expectations in this model (β =.05, *p* = .96). In addition, the UK dummy variable predicted parental expectations (β = -.31, *p* = .004), but the USA dummy variable did not (β = .09, *p* = 80). The negative sign of the UK metaregression coefficient is consistent with the interpretation that parental expectations are lower among British college students compared to Canadian (mean difference = -0.28) and American college students (mean difference = -0.34).

We then entered our age and gender covariates in a fourth multiple random effects metaregression model (Model 4). The covariates explained a significant portion of variance (R^2 = .39, Q_{model} = 49.48, *df* = 6, *p* < .001). The significant metaregression coefficients for time (β = .45, *p* < .001) and the UK dummy variable (β = -.29, *p* = .01) remained in this model, but the Gini index (β = .04, *p* = .94), USA dummy variable (β = .08, *p* = .86), gender (β = .10, *p* = .29), and mean age (β = -.12, *p* = .21) were not significant predictors of parental expectations scores.

Parental criticism. We used the same model building process to examine the influence of time on parental criticism. Results are reported in Table 6 and Figure 2. The first simple random effects metaregression model (Model 1) indicated that time explained a significant amount of variance in parental criticism scores (R^2 = .13, Q_{model} = 11.91, *df* = 1, *p* < .001). Inspection of the metaregression coefficient revealed that time positively parental criticism scores (β = .28, *p* < .001). The positive sign of the metaregression coefficient is consistent with the interpretation that more recent generations of college students reported higher perceptions of parental criticism than older generations of college students.

Next, we added the Gini index alongside time in a second multiple random effects metaregression model (Model 2). A significant portion of model variance was explained by the

covariates in this model (R^2 = .12, Q_{model} = 11.77, *df* = 2, *p* = .002). The significant metaregression coefficient of time remained in this model (β = .29, *p* < .001). However, the Gini index did not predict parental criticism (β = -.05, *p* = .92).

Then we added the country covariates alongside time in a third multiple random effects metaregression model (Model 3). A significant portion of model variance was explained by the covariates (R^2 = .11, Q_{model} = 13.49, *df* = 4, *p* = .01). The significant metaregression coefficient of parental criticism scores on time remained in this model (β = .36, *p* = .001). However, neither the Gini index (β = -.43, *p* =35) nor the UK dummy variable (β = -.08, *p* =.45) or the USA dummy variable (β = .34, *p* = .39) predicted parental criticism scores.

We then entered our age and gender covariates to a fourth multiple random effects metaregression model (Model 4). The covariates explained a significant portion of variance in parental criticism scores (R^2 = .10, Q_{model} = 14.22, *df* = 6, *p* = .03). The significant metaregression coefficient for time (β = .35, *p* = .003) remained in this model. The effects of the Gini index (β = -.44, *p* = .35), UK dummy variable (β = -.09, *p* = ..39) and the USA dummy variable (β = .37, *p* = .41) remained non-significant. Gender (β = .09, *p* = .33) and mean age (β = .01, *p* = .94) were not a significant predictors of parental criticism scores.

Parental pressure. We used the same model building process to examine the influence of time on parental pressure. Results are reported in Table 7 and Figure 2. The first simple random effects metaregression model (Model 1) indicated that time explained a significant amount of variance in parental pressure scores (R^2 = .16, Q_{model} = 15.27, *df* = 1, *p* < .001). Inspection of the metaregression coefficient revealed that time positively parental pressure scores (β = .25, *p* < .001). The positive sign of the metaregression coefficient is consistent with the

interpretation that more recent cohorts of college students reported higher perceptions of parental pressure than older cohorts of college students.

Next, we added the Gini index alongside time in a second multiple random effects metaregression model (Model 2). A significant portion of model variance was explained by the covariates in this model (R^2 = .16, Q_{model} = 16.58, *df* = 2, *p* < .001). The significant metaregression coefficient of time remained in this model (β = .26, *p* < .001). However, the Gini index did not predict parental pressure (β = .01, *p* = .27).

Then we added the country covariates alongside time in a third multiple random effects metaregression model (Model 3). A significant portion of model variance was explained by the covariates (R^2 = .19, Q_{model} = 21.10, *df* = 4, *p* < .001). The significant metaregression coefficient of parental pressure scores on time remained in this model (β = .33, *p* < .001). However, neither the Gini index (β = -.04, *p* = .39) nor the UK dummy variable (β = -.19, *p* = .13) or the USA dummy variable (β = .31, *p* = .35) predicted parental pressure scores.

We then entered our age and gender covariates to a fourth multiple random effects metaregression model (Model 4). The covariates explained a significant portion of variance in parental presure scores (R^2 = .18, Q_{model} = 22.88, *df* = 6, *p* < .001). The significant metaregression coefficient for time (β = .32, *p* = .001) remained in this model. The effects of the Gini index (β = -.44, *p* = .38) UK dummy variable (β = -.18, *p* = .18) and the USA dummy variable (β = .31, *p* = .36) remained non-significant. Gender (β = .001, *p* = .38) and mean age (β = -.02, *p* = .34) were not a significant predictors of parental pressure scores.

Effect size. In the final step of our analysis, we calculated the effect size (Cohen's *d*) for the overall change in perceptions of parenting from our initial time point (1989) to the present day (2021). Effect size calculations were made using unstandardized beta coefficients from

metaregression Model 1. For parental expectations, the regression equation yielded a predicted value of 2.85 for 1988 and 3.28 for 2021. In the context of the weighted-average within-study *SD* of 0.85, there was an increase of 0.51 *SD*s on the parental expectations scale over the 34 years of study (Cohen's $d = 0.51$, 95% CI. 0.29, 0.72). For parental criticism, the regression equation yielded a predicted value of 2.02 for 1988 and 2.44 for 2021. In the context of the weighted-average within-study *SD* of 0.94, there was an increase of 0.45 *SD*s on the parental criticism scale over the 34 years of study (Cohen's $d = 0.45$, 95% CI. 0.16, 0.73). Finally, for parental pressure, the regression equation yielded a predicted value of 2.45 for 1988 and 2.85 for 2021. In the context of the weighted-average within-study SD of 0.89, there was an increase of 0.45 SDs on the parental pressure scale over the 34 years of study (Cohen's $d = 0.45$, 95% CI. 0.20, 0.70).

Translating the *SD* change to percentile scores is informative. Assuming the average college student in 1988 scored at the 50^{th} percentile of the parental expectations and parental criticism distributions, the average college student in 2021 would score at the 69^{th} percentile of the parental expectations distribution and the 67^{th} percentiles of the parental criticism and parental pressure distributions. Accordingly, approximately two-thirds of college students in 2021 were above the 1988 mean parental expectations, criticism, and pressure scores, which amounts to a between 32 and 35 percent increase.

Discussion

The aim of this study was twofold. Using meta-analysis, we sought to ascertain the magnitude and direction of relationships of perceived parental expectations and parental criticism with self-oriented, socially prescribed, and other-oriented perfectionism As expected, analyses revealed small-to-moderate positive mean weighted correlations between the two parenting perceptions and self-oriented and other-oriented perfectionism, and a large positive

mean weighted correlations between both parenting perceptions and socially prescribed perfectionism. Then, using cross-temporal meta-analysis we examined whether parental expectations, parental criticism, and, when combined, parental pressure, were changing over time. In line with expectations, college students' mean parental expectations, parental criticism, and parental pressure scores showed linear increases between 1989 and 2019. These trends remained holding economic inequality, age, gender, and between-country differences constant.

Effects of parental expectations and parental criticism on perfectionism

Study one offered several important findings. Notably, all trait perfectionism dimensions were positively correlated with both parental expectations and parental criticism. According to Hewitt and Flett (Hewitt et al., 2017; Flett et al., 2002), children who become perfectionistic do so within an environment of extreme parental expectations and criticism. This is because such behaviors foster parent-child asynchrony and, in doing, create conditionalities of self-worth tied to excessive achievement standards and others' approval. Depending on the dimension of perfectionism such conditional self-worth reveals itself in different ways. For instance, through demanding perfection from oneself (self-oriented perfectionism) and others (other-oriented perfectionism) or internalizing a world view that includes perceptions of oppressive perfectionistic demands from a generalized other (socially prescribed perfectionism). These analyses support this theorizing and substantiate research showing that parental behavior can partly account for the intergenerational transmission of perfectionism (e.g., Curran, Hill, Madigan, & Stornæs, 2020; Soenens et al., 2005).

To ascertain whether these findings would remain when controlling for the variance shared between parental expectations and parental criticism, we also meta-analyzed partial correlations. Four of the six partial correlations were significant. Parental expectations and

parental criticism seemingly have unique relationships with trait perfectionism, especially socially prescribed perfectionism, that emerge over and above their shared influence. Two effects were lost when the parenting dimensions were partialled. These were the relationships of parental criticism with self-oriented and other-oriented perfectionism. One thing that can be inferred from these lost effects is that perceptions of parental expectations seem to be comparatively more central to the development of perfectionism than parental criticism. This might be considered unexpected. However, one reason parental expectations seem more important than parental criticism is that while parents could conceivably criticise children for innumerate reasons, excessive expectations may be experienced as more overtly perfectionistic and instructive by children.

It is notable that parental expectations and parental criticism explained most variance in socially prescribed perfectionism and effects remained when the parenting dimensions were residualised. Perhaps this is not surprising. Socially prescribed perfectionism is, after all, characterized by the perception that others are judgemental and excessively demanding (Hewitt & Flett, 1991). These perceptions are anchored in significant others but are invariably reinforced by parents who provide high expectations and high criticism (Flett et al., 2002). The close overlap of such variables may have introduced a degree of confounding and inflation in the effect. For this reason, some caution is required when interpreting these specific findings. Yet we note that conceptually and empirically both parenting perceptions are distinct from socially prescribed perfectionism, which is akin to a worldview of oppressive expectations, generalized pressure, and a dependency on others' approval (rather than discreet parental behaviors per-se). Hewitt and Flett (Hewitt & Flett, 1991; Hewitt et al., 2017) have argued pointedly that socially prescribed perfectionism includes the influence of a wider array of others and family members,

peers, and teachers, as well as perceptions of broader societal pressures. Parental behaviors, then, are an important part, but far from the only part, of socially prescribed perfectionistic standards.

Study one's findings need to be qualified by significant study-to-study variability. Sources of this variability were uncovered in the moderation analyses. Between-study differences in relations between both parenting practices and self-oriented perfectionism, for instance, were partly explained by time such that larger effects were observed in more recent samples. This observation chimes with our wider theorizing. Growing societal pressure is seemingly amplifying achievement anxieties, especially as they are passed from parent to child. Young people appear to be increasingly sensitive to parental pressure and this potentially renders parenting increasingly important to the development of perfectionism. Moderation analysis also revealed that, as expected, the correlation of parental expectations with self-oriented perfectionism was larger among males. Males tend to report their parents as more controlling than females and hence larger effects should be expected in samples that contain more of them (Barber & Harmon, 2002). Such moderators are important factors when considering the development of perfectionism in future research.

Changes in parental expectations and parental criticism over time

Our second study sought to ascertain whether, and to what extent, rising perfectionism dovetails with generational differences in perceptions of parental expectations, parental criticism, and parental pressure. Like increases in trait perfectionism, we found that perceptions of all these parenting practices have increased over time among young people. More recent cohorts appear to be experiencing their parents are increasingly demanding and are becoming harsher and more critical. In the case of parental expectations, such a trend is consistent with observations of increasing time that parents are spending with their children in achievement activities such as

schooling, as well as the value that they are placing on achievement-related qualities such as hard work (e.g., Doepke & Zilibotti, 2019; Ramey & Ramey, 2010). As regards parental criticism, our findings substantiate data indicating that more recent generations of parents value compliance, and are engaging in more monitoring, surveillance, and otherwise anxious forms of rearing (Collinshaw et al., 2012; Shaw et al., 2015). Combined, these two trends support our thinking that escalating societal pressures may be being amplified among young people via parental pressure.

As to why parents may be increasing their expectations and criticism, our theorizing centers on several decades of substantial societal change (Bronfenbrenner, 1989). Since the late 1970s, there has been a global shift toward neoliberal policymaking. Copious market-based reforms, including labor casualization, public sector outsourcing, deregulation, privatization, and the opening of economies to global capital have placed the priorities of competitive individualism at the core of modern society and sought to move them into every sphere of life (Davies, 2014). Conditions that are perhaps most evident and relevant here is the rise of school-based testing and the endless measuring, sifting, sorting, and ranking of young people into classes, sets, and colleges. In tandem with rising returns to college education, neoliberalism is exerting enormous pressure on young people to compete with one another as a way of demonstrating their merit. We believe that some parents, too, internalize this pressure and respond, in kind, with a hyper-vigilance for their child's successes (and failures). This hyper-vigilance is seemingly revealing itself in increasing perceptions of parental expectations and criticism.

Findings from the covariate analyses go one step further. Not only was time positively associated with parental expectations, but income inequality was too. This finding is consistent

with the analyses of Doepke and Zilibotti (2019) who found a large positive correlation between the Gini coefficient and parental value of hard work and obedience in the World Values Survey. In our analyses, the effects of time and Gini index were independent, indicating that the cultural (competitive individualism) and economic (high inequality) signatures of neoliberalism have related but also distinct effects on parental expectations (but not criticism) – the former being the dimension of perfectionism most strongly related to trait perfectionism. We have previously focused on how competitive individualism is seemingly prompting young people to appraise their parents as more expectant. It appears that lacing these cultural changes with widening gaps between the rich and poor creates an even greater requirement to pursue and attain excessively high standards.

Perfectionism and changing parenting practices

Turning to the general aim of this paper, our findings offer perhaps the best indication yet of how parental practices that contribute to the development of perfectionism are changing over time (at least in the US, Canada, and the UK). The increase in perfectionism Curran and Hill (2019) observed among young people seemingly coincides with a similar increase in perceptions of parental expectations and parental criticism. This is especially evident for socially prescribed perfectionism, which shared the largest correlation with parental expectations and parental criticism in study one and had the steepest increase over time in Curran and Hill (2019). Although, of course, it is evident for all dimensions of trait perfectionism to some degree, reflecting both the tendency for perfectionism to manifest in multiple related ways and the common etiological basis for perfectionistic tendencies (Hewitt et al., 2017).

The findings, we should add, are at variance with arguments provided by Soenens and Vansteenkiste (2019). These authors suggest that psychological control (i.e., control-as-pressure)

among parents has decreased rather than increased, and that more structuring forms of parental control (i.e., control-as-structure) are on the rise. Certainly, parental expectations and parental criticism are not exactly the same as either kind of control defined by Soenens and Vansteenkiste (2019). However, parental expectations and parental criticism are more akin to control-as-pressure than control-as-structure, conceptualised, as they were by Frost et al (1990), to capture expectations that children "cannot meet" and criticisms that communicated "rejection [and] loss of love" (Frost et al., 1990, p. 451). A family environment characterized by these practices will be experienced as overbearing and will instil in children a sense of inadequacy and dependency on approval (Hewitt et al., 2017). As such, our findings provide an important counterpoint to the position of Soenens and Vansteenkiste's (2019).

Many of Soenens and Vansteenkiste's (2019) arguments, however, remain instructive. It is likely, in our opinion, that what Soenens and Vansteenkiste call control-as-structure is rising, but that it is doing so in parallel with what they call control-as-pressure. At least, that is, in countries with high economic inequality or in some sub-groups of parents and not others. Control-as-structure and control-as-pressure are not mutually exclusive practices. Combinations of these practices coexist and, indeed, comparable practices often display synergistic relationships (e.g., Curran, Hill, & Niemiec, 2013; Jang, Reeve, & Deci, 2010; Sierens, Vansteenkiste, Goossens, Soenens, & Dochy, 2009). This synergy may be what we are seeing in the spectacle of "helicopter parenting" (Padilla-Walker & Nelson, 2012). Indeed, overinvolvement in children's academic activities has been increasing across a comparable period to parenting changes observed in this study (e.g., Doepke & Zilibotti, 2019). At least, the available data does not rule out an increase in "helicopter" practices that provide both structure and pressure.

If it is the case that changing parenting practices are linked to rising perfectionism, we feel it important in closing to restate our conviction that parents are *not to blame*. What we have observed in this study are systems-level changes whose explanation lies, if anywhere, at the door of society.

Since 2000, the average American family with two children has seen the cost-of-living rise by more than ten thousand dollars while their income has stagnated (Price & Edwards, 2020). Although the United States is a clear outlier, the divergence of wages and prices is a distinguishing feature of rich economies in the modern world (Nolan, Roser, & Thewissen, 2016). The invariable result of this divergence has been increasing downward mobility. In developed countries, across each of every four years for the past two decades, one-in-seven households within the middle sixty percent of the income distribution has descended into the bottom twenty percent (OECD, 2019). Their lost income has been systematically siphoned upwards. While the share of income going to middle-class households has dwindled, the share of income going to households in the top five percent has almost doubled (Horowitz, Igielnik, & Kochhr, 2020).

Drawing out these trends exposes an uncomfortable fact. Today, most young people will need to work far harder than their parents, and earn much more, just to have the same standard of living. They are paying the price for this burden with their mental health. And their parents, too, are anxiously responding by projecting the kind of excessive standards that they think, in a meritocracy, are necessary to overcome economic hurdles. Even so, most families are struggling to maintain their position on the social ladder.

To the injury of downward mobility, meritocracy adds the insult of shame (cf. De Botton, 2004). There was no action young people or their parents could take, yet they still feel somehow

responsible for headwinds far from them, and far from their control. We should not be surprised to see perceptions of parental expectations and criticism rising. Against a background of downward mobility, in economies where the next generation will be materially poorer, and where inequalities are exacerbated by escalating returns to elite college education, rising parental expectations and criticism are rational, indeed inevitable, and are deployed in what is understood to be the best interests of the child given the competitive and uncertain world they happen to inhabit.

Like all behavior, parenting is simply part of a wider social milieu that, in the context of child development, impresses itself directly and indirectly via multiple pathways. As the COVID-19 pandemic deepens economic inequalities, we must look beyond the inner world of parents and their families when interpreting changes to parenting. Parents are hugely influential in their children's lives. But besides their direct effects on child development, of which there are many, they are also critical intermediaries of broader economic and cultural conditions. Parents are not, as a rule, setting higher expectations or giving more criticism out of choice. Far from it. They engage in these practices because, more often than not, their better instincts must be suspended for instincts that are superimposed by a competitive, individualistic, and precarious, neoliberal society.

Limitations and future research

Several limitations of the study are noteworthy. Studies included in the meta-analyses contained samples from North American and British young people and hence studies from regions other than these (e.g., European and Eastern/Asian counties) are not represented. This will influence the generalizability of the findings and is particularly noteworthy considering emerging evidence of potential cultural differences in the correlates and levels of perfectionism

(e.g., Stoeber, Kokorin, & Tino, 2013). Relatedly, the inclusion of only English published reports is another restriction to generalizability, as is a focus on college students in Study 2. Focusing on college students is especially limiting since they are more likely to be White and from higher socioeconomic backgrounds than young people more generally.

Only expectations and criticism were included as correlates in study one. Other forms of parental control are equally relevant to perfectionism's development (e.g., Soenens et al., 2005). Future research should extend this study to include such variables. As well, cross-temporal meta-analyses can confound period (contemporaneous time) and cohort (birth year) effects and so this analytic approach is not without practical problems in the absence of rich theory (Rudolph, Rauvola, Costanza, & Zacher, 2020).

It is also noteworthy that the correlation between parental expectations and socially prescribed perfectionism exhibited especially high heterogeneity. We found no evidence of moderation by study year, age, gender, and setting, but there may be other things, such as method factors (e.g., the order of response) or changes in survey techniques (e.g., online vs paper and pencil), which we could not control for. As well as explaining unexplained heterogeneity, method factors may have had other impacts. For example, we used subscales of one perfectionism measure (i.e., F-MPS) as correlates of another (i.e., HF-MPS). Although the dimensions we chose as predictors (i.e., parental expectations and criticism) are purported to be antecedents of perfectionism, rather than dimensions, this may have inflated effects.

There is also the issue of publication bias. Egger's regression test found evidence of publication bias for three effects in study one. Meta-analyses that review many independent relationships often find publication bias in select effects (e.g., Curran, Hill, Vallerand, Appleton, & Standage, 2015). But it is notable that these effects showed no evidence of publication bias

using the trim and fill procedure or Begg's rank test. Also noteworthy is that in two of these relationships, the effect size is underestimated. Nonetheless, according to Egger's test, studies are missing from the distribution of three effects and hence they should be interpreted with caution and the lower Trim and Fill estimates may be more accurate in these cases.

The prevalence of cross-sectional studies reporting correlations between parenting practices and perfectionism is another limitation. We assume that causality moves from parent to child, but it may be in reverse. Perfectionistic children outwardly express a desire to meet excessive standards and lord those standards over others (Hewitt et al., 2017). These behaviors may provoke in parents a sense that stringent expectations and harsh criticism are apt or even desired. As trait perfectionism appears to be increasing over the period addressed in this paper (Curran & Hill, 2019), there is the possibility that changes in parental expectations and criticism are due to changes in trait perfectionism rather than vice versa. Or, more troubling, that these relationships are reciprocal and mutually reinforcing. Cross-lagged studies are needed to test this interplay.

Study two also has limitations. First, the magnitude of change is worth comment. Between 1988 and 2020, mean parental expectations scores increased by .41 units, and mean parental criticism scores increased by .38 units. These differences are ostensibly trivial. But in the context of their Likert scales, they represent increases of eight and seven percent, respectively. Our use of the F-MPS is, of course, not without drawbacks. First, it measures subjective perceptions of parenting practices rather than objective parenting practices. We are inferring that these perceptions are anchored, at least to some degree, in changes in actual parental behaviours. Yet we cannot rule out that this may not be the case or that these changes reflect other things like rises in the degree to which people are perfectionistic and are therefore

more likely to perceive pressure from others. The second drawback of the F-MPS is that, although we believe parental expectations and parental criticism well-approximate the parenting practices we have described (i.e., anxious and overly controlling parenting), it is noteworthy that select items may not capture them fully. It will be important for subsequent work to further test our's and Soenens and Vansteekiste's (2019) competing hypotheses with other measures of anxious rearing and psychological control.

While the between-study variance in study two was relatively small ($\tau^2 \leq .07$), the proportion that was not due to chance was quite large ($I^2 \geq 89\%$). This is probably due to several factors including the extensive period of data retrieval (33-years), data collected from different laboratories, and the influence of third factors beyond the year of data collection. To this latter possibility, several other parenting practices such as monitoring, surveillance, and behavioral control have been found to have increased over a comparable period. Changing demographic factors among college students (e.g., gender, social-economic status, country of origin) may, too, be significant. Since the early 2000s, college selection has become fiercely competitive, and access is increasingly concentrated among those with the most resource (Markovitis, 2019). These social shakeups are important because analyses show that parenting changes akin to those observed here are concentrated among more privileged families (Doepke & Zillibotti, 2019). It may be that our findings reflect the changing make-up of college just as much as they do shifts in parental socialization.

Conclusion

The current study provided results from two meta-analyses, which found that perceptions of parental expectations and parental criticism not only positively correlate with perfectionism but are also rising over time among young people. Although the idea that overly anxious and

controlling parenting was increasing has previously been met with skepticism, this evidence suggests that perceptions of at least some forms of similar parental practices are on the rise in the US, Canada, and the UK. With increasing competitiveness, growing economic inequality, and escalating pressure to strive and achieve as the societal background, increases in parental expectations and parental criticism likely offer one of the most plausible explanations for rising perfectionism so far.

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Table 1.

Parental expectations and parental criticism items from the Frost Multidimensional Perfectionism Scale (Frost et al., 1990)

Parental expectations (5 items)	Parental criticism (4 items)
My parents set very high standards for me.	As a child, I was punished for doing things less than perfect.
My parents wanted me to be the best at everything.	My parents never tried to understand my mistakes.
Only outstanding performance is good enough in my family.	I never felt like I could meet my parents' expectations.
My parents have expected excellence from me.	I never felt like I could meet my parents' standards.
My parents have always had higher expectations for my future than I have.	

Note: Items are responded on a 5-point Likert scale, with 1 = strongly disagree and 5 = strongly agree.

Table 2.

Descriptive statistics and distributional properties of moderators for studies carried forward to final analysis in Study 1

Variables	k_{means}	*N*	*M*	*SD*	Range
Age					
Mean age	21	7,060	23.81	8.75	9.83-43.60
Setting					
Clinical	4	632			
Non-Clinical	17	6,428			
Gender					
Female %	21	7,060	65.84	22.71	6.18-100.00

Note: N = sample size; *M* = mean; *SD* = standard deviation.

Table 3.

Results of the Primary Meta-Analysis for Bivariate Correlations

Measure	*N*	*k*	r^+	CIr^+ 95%	r_c^+	CIr_c^+ 95%	pr_c^+	Heterogeneity			Publication bias			
								I^2	Q_T	τ^2(*SE*)	k^a	r^{+b}	p_E	p_B
Parental expectations														
Self-oriented perfectionism	7060	21	.33	.29, .36	.39	.35, .43	.31^{**c}	64.89%	59.40**	.005(.002)	2	.32	.55	.79
Socially prescribed perfectionism	6857	20	.57	.53, .60	.67	.62, .72	.37^{**d}	81.02%	121.45**	.01(.002)	4	.58	.001	.29
Other-oriented perfectionism	5125	16	.22	.17, .26	.27	.22, .33	.22^{**e}	64.38%	44.77**	.01(.003)	0	.22	.76	.45
Parental criticism														
Self-oriented perfectionism	6990	20	.20	.16, .25	.25	.20, .31	-.06^{c}	72.57%	62.60**	.01(.003)	3	.18	.05	.32
Socially prescribed perfectionism	6857	20	.53	.51, .56	.64	.61, .68	.38^{**d}	61.50%	56.45**	.004(.002)	6	.56	.001	.03
Other-oriented perfectionism	5125	16	.14	.08, .19	.17	.11, .24	-.07^{*e}	71.12%	55.11**	.01(.004)	0	.14	.71	.82

Note. r^+ = mean weighted correlation coefficient corrected for sampling error; r_c^+ = mean weighted correlation coefficient corrected for measurement and sampling error; pr_c^+ = mean weighted partial correlation corrected for measurement and sampling error; *N* = overall sample size; *k* = number of independent studies; CI = confidence interval; I^2= Higgins and Thompson's (2002) measure of heterogeneity; Q_T = Cochran's (1954) measure of total homogeneity; τ^2 = total between-study variance; k^a = Number of missing studies; r^{+b} = Weighted correlation after missing studies imputed using Duval and Tweedie's (2000) trim and fill procedure; p_E = p value of Begg's test; p_E = p value of Egger's test. $^c k$ = 16, $^c N$ = 5794. $^d k$ = 15, $^d N$ = 5591. $^e k$ = 12, $^e N$ = 3929.

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

Table 4.

Descriptive statistics and distributional properties of variables for studies carried forward to final analysis for Study 2

Variables	*k*	*N*	*M*	*SD*	Range
Perceptions of parenting					
Parental expectations	82	23,581	3.11	.21	2.65-3.65
Parental criticism	81	23,171	2.27	.28	1.70-3.18
Parental pressure	81	23,305	2.69	.23	1.96-3.45
Country					
US	67	18,245			
Canada	12	3,741			
UK	4	1,713			
Gender and Age					
Female %	83	23,699	66.87	23.96	0.00-100.00
Mean age	83	23,699	20.30	1.10	18.28-23.66

Note: N = sample size; *M* = mean; *SD* = standard deviation.

Table 5.
Summary of inverse variance-weighted metaregression results for parental expectations.

***k* = 82**	**Model 1**			**Model 2**			**Model 3**			**Model 4**		
	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***
Birth cohort												
Time	.01** (.01, .02)	.003	.49	.01** (.01, .02)	.003	.44	.01** (.01, .02)	.003	.49	.01** (.01, .02)	.003	.45
Inequality												
Gini				.02** (.01, .03)	.01	.28	.002 (-.07, .07)	.04	.05	.003 (-.07, .07)	.03	.04
Country[a]												
USA							.06 (-.43, .56)	.25	.09	.05 (-.45, .54)	.25	.08
UK							-.28** (-.48, -.09)	.10	-.31	-.27** (-.47, -.07)	.10	-.29
Gender												
% female										.001 (-.001, .003)	.001	.10
Mean age										-.02 (-.09, .01)	.02	-.12
Model statistics												
$Q_{model}(df)$	26.72(1)**			37.43(2)**			49.48(4)**			52.99(6)**		
$Q_{residual}(df)$	1048.34(80)			872.93(79)			793.18(77)			771.83(75)		
R^2	.27			.33			.39			.40		
$\tau^2(SE)$	.03(.01)			.03(.005)			.02(.004)			.02(.004)		
I^2	91.90			91.06			90.14			89.97		

[a]The comparison group for the country covariate was Canada.
$p < .05^{*}$, $p < .01^{**}$

Table 6.
Summary of inverse variance-weighted metaregression results for parental criticism.

***k* = 81**	**Model 1**			**Model 2**			**Model 3**			**Model 4**		
	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***
Birth cohort												
Time	.01** (.01, .02)	.004	.28	.01** (.01, .02)	.004	.29	.02** (.01, .03)	.01	.36	.02** (.01, .03)	.01	.35
Inequality												
Gini				-.001 (-.02, .02)	.01	-.02	-.05 (-.16, .06)	.06	-.43	-.05 (-.16, .06)	.06	-.44
Country[a]												
USA							.34 (-.45, 1.14)	.40	.38	.34 (-.46, .18)	.41	.37
UK							-.12 (-.42, .19)	.16	-.08	-.14 (-.46, .18)	.16	-.09
Gender												
% female										.001 (-.001, .004)	.001	.09
Mean age										.002 (-.06, .06)	.03	.01
Model statistics												
$Q_{model}(df)$	11.91(1)**			11.77(2)**			13.49(4)**			14.22(6)*		
$Q_{residual}(df)$	1678.47(79)			1632.28(78)			1581.16(76)			1569.80(74)		
R^2	.13			.12			.11			.10		
$\tau^2(SE)$	.06(.01)			.06(.01)			.06(.01)			.07(.01)		
I^2	95.61			95.58			95.46			95.49		

Table 7.
Summary of inverse variance-weighted metaregression results for parental pressure.

***k* = 81**	**Model 1**			**Model 2**			**Model 3**			**Model 4**		
	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***	***b* (95% CI)**	***SE***	***β***
Birth cohort												
Time	.01** (.01, .02)	.003	.25	.01** (.01, .02)	.003	.26	.01** (.01, .02)	.004	.33	.01** (.01, .02)	.004	.32
Inequality												
Gini				.01 (-.01, .03)	.01	-.03	-.04 (-.13, .05)	.05	-.44	-.04 (.13, .05)	.05	-.44
Country[a]												
USA							.31 (-.34, .96)	.33	.38	.31 (-.35, .96)	.33	.38
UK							-.19 (-.44, .06)	.13	-.08	-.18 (-.44, .08)	.13	-.09
Gender												
% female										.001 (-.001, .003)	.001	.06
Mean age										-.02 (-.07, .02)	.02	.01
Model statistics												
$Q_{model}(df)$	15.27(1)**			16.58(2)**			21.10(4)*			22.88(6)		
$Q_{residual}(df)$	1481.62(79)			1361.65(78)			1307.61(76)			1260.55(74)		
R^2	.16			.16			.19			.18		
$\tau^2(SE)$	.04(.01)			.04(.01)			.04(.01)			.04(.01)		
I^2	94.14			94.03			93.73			93.69		

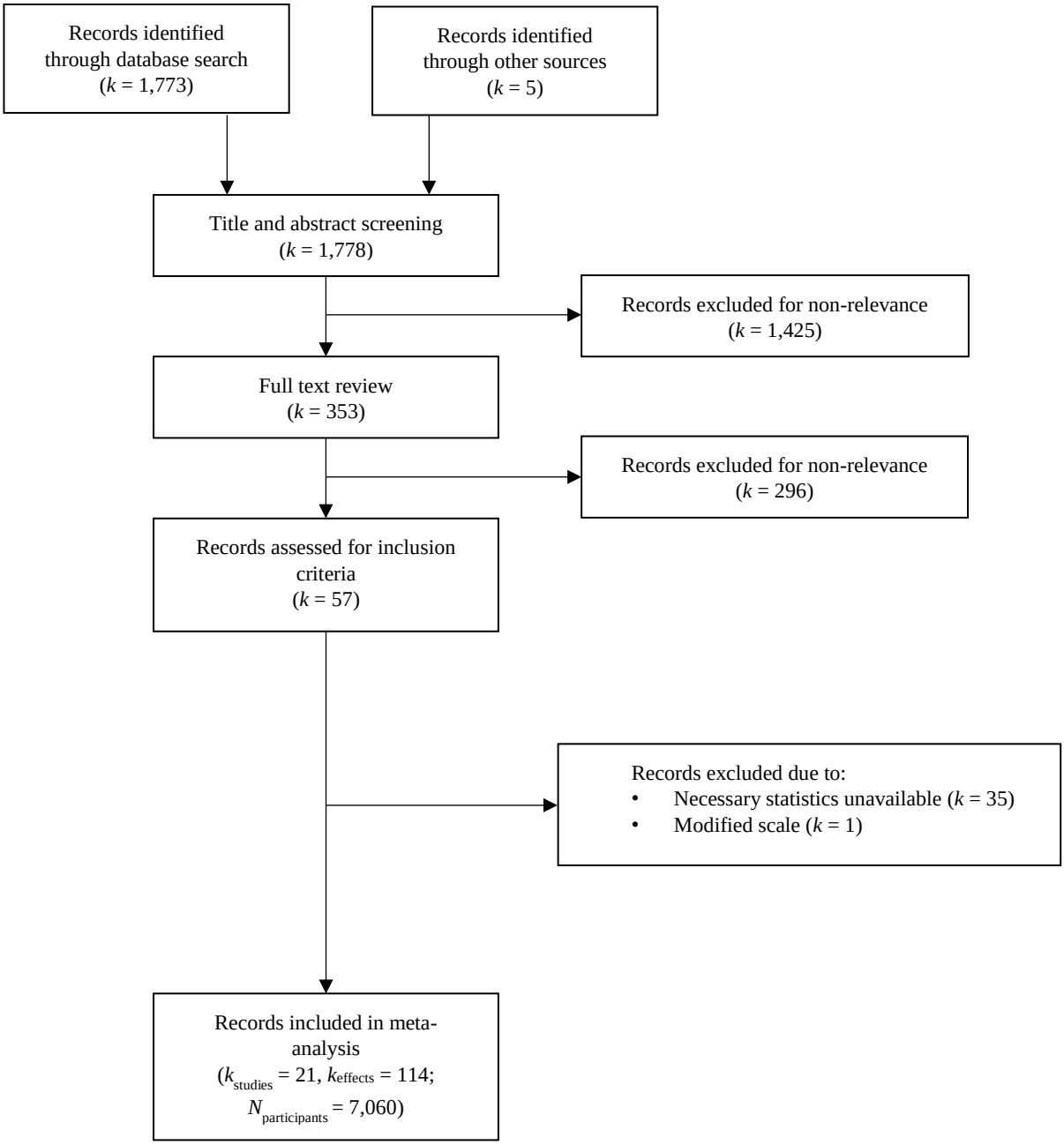

Figure 1. Systematic review flow diagram for the study 1 literature search

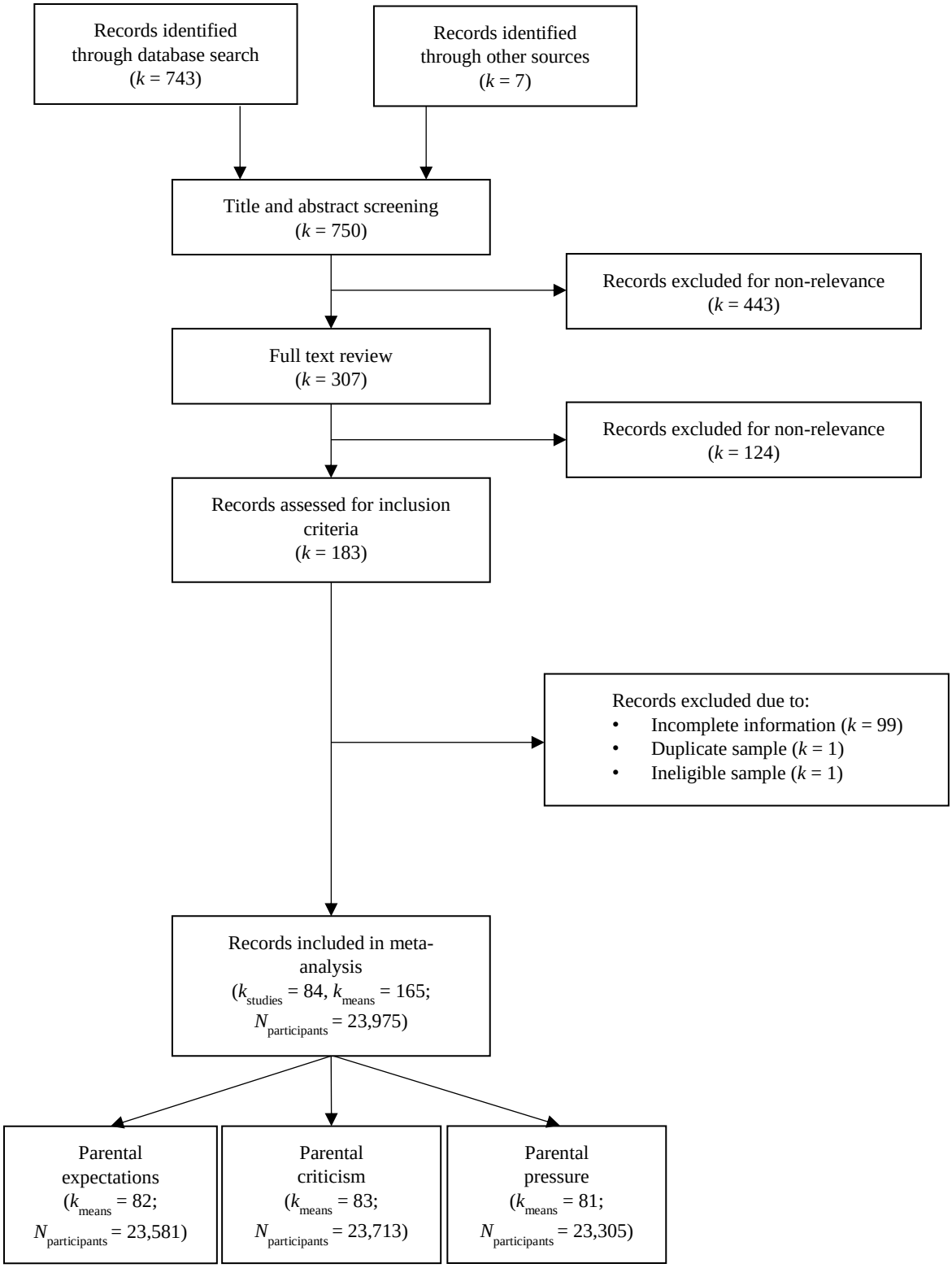

Figure 2. Systematic review flow diagram for the study 2 literature search.

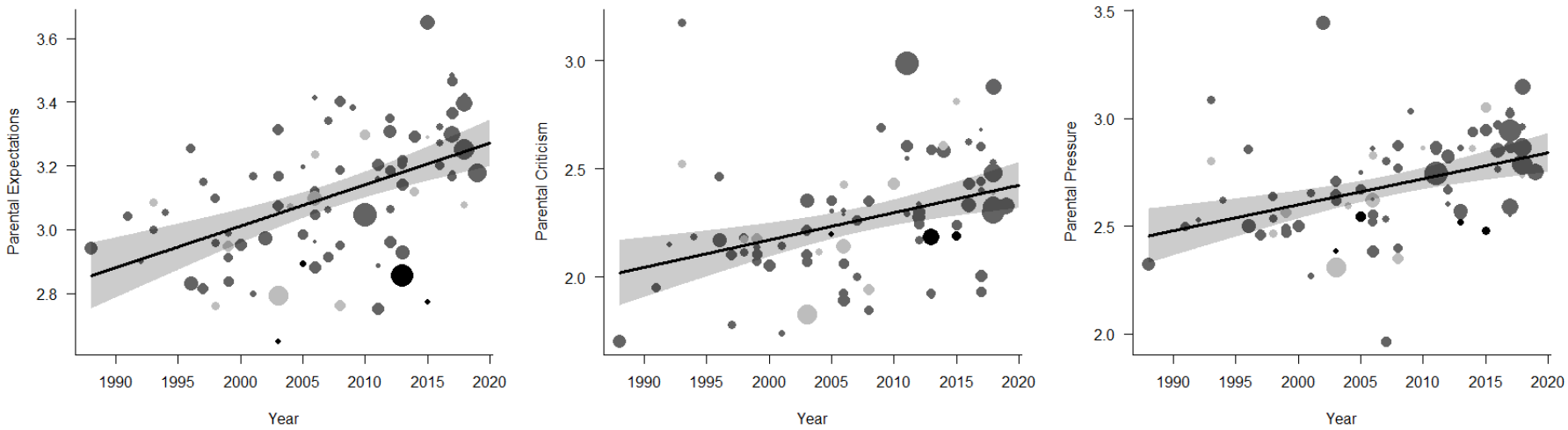

Figure 3. Parental expectations, parental criticism and parental pressure scores plotted against year of data collection.

Note. The solid regression line is plotted through the predicted scores from the metaregression equation in Model 1. Data-points represent study means and the size of the data-point is proportional to study (inverse variance) weighting. Points shaded black are data from the UK, points shaded dark grey are data from the US, and points shaded light grey are data from Canada. The band between the upper and lower limits of the 95% confidence interval for the predicted values is contained within transparent grey area around the solid regression line.