This manuscript has been accepted for publication in *American Psychologist.* This is not the official copy of the record, and the published version may differ slightly.

Disentangling Autonomy-Supportive and Psychologically Controlling Parenting: A Meta-Analysis of Self-Determination Theory's Dual Process Model Across Cultures

Emma L. Bradshaw[1] https://orcid.org/0000-0001-6423-5499

Jasper J. Duineveld[1] https://orcid.org/0000-0002-2974-4543

James H. Conigrave[1,2] https://orcid.org/0000-0002-8816-6229

Ben A. Steward[1] https://orcid.org/0000-0002-7517-9215

Kelly A. Ferber[1] https://orcid.org/0000-0002-9504-7463

Mireille Joussemet[3] https://orcid.org/0000-0003-4407-6149

Philip D. Parker[1] https://orcid.org/0000-0002-4604-8566

Richard M. Ryan[1, 4] https://orcid.org/0000-0002-2355-6154

[1]Institute for Positive Psychology and Education, Australian Catholic University, North Sydney, NSW, Australia

[2]Centre for Alcohol Policy Research, La Trobe University, Bundoora, Australia

[3]Department of Psychology, Université de Montréal, Montréal, QC, Canada

[4]Ewha Womans University, South Korea

Abstract

Self-determination theory's (SDT) dual process model claims that parental autonomy support relates positively to child well-being, while psychologically controlling parenting is linked positively to child ill-being. We tested these claims using a combination of one-stage and univariate meta-analytic structural equation modeling with moderation ($k = 238$; $n = 1,040$, $N = 126,423$). In the univariate models, parental autonomy support was linked positively with child well-being ($r = 0.30$ [95% CI 0.26, 0.33]) whereas parental psychological control was positively linked with child ill-being ($r = 0.26$ [0.23, 0.28]). Consistent with SDT's dual process model, the one-stage model that controlled for the intercorrelations between predictors, showed that parental autonomy support and psychological control had distinct links to child wellness outcomes. Parental autonomy support was linked positively with child well-being, even when accounting for psychological control ($r = 0.26$ [0.20, 0.31]), and psychological control was positively linked to child ill-being, controlling for autonomy support ($r = 0.20$ [0.17, 0.23]). Crucially, the beneficial effects of parental autonomy support and the costs of psychological control applied across regions, degrees of national individualism and cultural hierarchy, as well as child developmental periods and sexes. These results help move the field beyond debates about *whether* autonomy is beneficial, toward questions about manifestations of autonomy across groups and variations in its optimal support.

Keywords: Psychological needs, autonomy, adolescent, child, parents, flourishing

Public Significance Statement: Across regions and cultures, child well-being goes up when parents are more autonomy-supportive and ill-being goes up when parents are psychologically controlling. The research underscores the importance of nurturing parenting strategies for children's mental health. Such insights can inform parenting practices and child development policies across cultures, improving the possible benefits to children.

For most parents, the well-being of their children is a priority (Stearns, 2019). The important role parents play in child well-being has been viewed from many research perspectives. Of these, evidence in favor of *self-determination theory*'s (SDT; Ryan & Deci, 2017) *dual process model* (Vansteenkiste & Ryan, 2013) of parenting consistently indicates that children benefit when parents are autonomy-supportive (Vasquez et al., 2016) and suffer when their autonomy is thwarted by psychologically controlling parenting (Soenens et al., 2008). The cross-cultural replicability of these findings (Chirkov & Ryan, 2001; Luebbe et al., 2018; Sheldon et al., 2009; Soenens et al., 2007) alludes to certain universalities in what comprises a nurturing environment for children. Indeed, respect for autonomy has been enshrined in multiple elements of the United Nations Convention on the Rights of the Child (1989), also suggesting the widely applicable benefits of autonomy support and the harms of psychologically controlling environments. It is therefore essential that the reliability and generalizability of the evidence base for these claims be thoroughly tested.

In this study, we used meta-analysis to test and disentangle the dual process effects of parental autonomy support and psychological control on child well-being and ill-being, aiming to assess their individual effects and predictive independence. By doing so, we clarify crucial questions about the interplay between autonomy-supportive and psychologically controlling parenting, their distinct links with child well-being and ill-being, and the generalizability of the effects. The dual process model proposes that need supportive contexts—which nurture choice, responsibility, and connection with others via autonomy support—link most strongly to adaptive outcomes (Haerens et al., 2015), including child well-being. Need thwarting contexts—which obstruct the growth and integration of the authentic self via psychological control—link most strongly to maladaptive outcomes (Jang et al., 2016), including child ill-being. Cross-paths between these variables (i.e., from parental autonomy support to ill-being and from parental psychological control to well-being)

are usually weaker in magnitude. Despite the reliability of the dual process effects, the literature reflects debate about their generalizability and the cross-cultural applicability of autonomy as a basic need (e.g., Tripathi et al., 2018). These are gaps we strived to address by meta-analytically assessing the generalizability of the effects across studies of different regions (countries clustered roughly by continent), degrees of national individualism and cultural hierarchy, as well as child developmental periods and sexes. With this approach, we aimed to advance the theory, improve the evidence base for practitioners working with parents, and build towards empirical consensus about the generalizable value of meeting children's fundamental need for autonomy, and of avoiding psychologically controlling parenting behaviors.

Autonomy-Supportive and Psychologically Controlling Parenting in SDT

SDT's stance on parenting emphasizes the importance of supporting children's autonomy in facilitating their psychological growth and integration (Grolnick et al., 1997; Ryan & Deci, 2017). Autonomy concerns the capacity for volitionally initiating and maintaining behaviors. Parental autonomy support entails actively considering the child's perspective, engaging them in purposeful, age-appropriate decisions, providing meaningful rationales for rules and limits, and supporting self-expression (Ryan & Deci, 2017). These behaviors satisfy people's basic psychological needs and are considered foundational to the development of executive functioning (Bindman et al., 2015) and healthy self-regulation (Joussemet et al., 2008; Ryan & Deci, 2000). Experiences of autonomy during childhood and adolescence are especially crucial to the development of healthy self-functioning because it is during these periods that fundamental cognitive, behavioral, and socio-emotional capacities begin to emerge.

In contrast, psychologically controlling parenting involves influencing children's actions, thoughts, and emotions by emphasizing coercion, external pressures, and

contingencies (Barber, 1996). Parental psychological control is distinct from behavioral control, the latter defined as the communication of parental expectations through firm but fair rules and demands (Schaefer, 1959). When autonomy-supportive and developmentally appropriate, behaviorally controlling strategies like limit setting can benefit children, contributing to the development of healthy self-regulation (Grolnick et al., 1997; Koestner et al., 1984). In contrast, parental psychological control undermines children's basic need for autonomy. Psychologically controlling parenting behaviors include guilt invocation, harsh punishment, threats, contingent regard, and love withdrawal (Mageau et al., 2015). These tactics thwart children's abilities to explore and be curious—behaviors fundamental to the healthy development and integration of the self and can lead to children experiencing painful emotions like anger, as well as defiance or even aggression (Joussemet et al., 2008). In this study we focused on psychological control because it fundamentally undermines children's basic psychological need for autonomy, therefore linking more directly to child ill-being.

Parenting and Child Well-being and Ill-being in SDT

SDT contends that autonomy-supportive parenting practices equip children with the skills for optimal personal and social functioning, and thus ready access to experiences of well-being such as vitality and positive affect (Ryan & Deci, 2000). Conversely, children whose autonomy is thwarted by psychological control become sensitized to the presence of punishments and threats, rather than to opportunities for play and growth. As a result, they become more prone to experiences of ill-being including anxiety, depression, and negative affect (Ryan & Deci, 2000). There is considerable evidence to support these theorized links. Parental autonomy support has been positively linked with key indicators of child well-being including vitality and positive affect (van der Kaap-Deeder et al., 2017). Indeed, various benefits have been demonstrated both longitudinally (Joussemet et al., 2005) and meta-analytically (Vasquez et al., 2016). Meanwhile, parental psychological control has been

positively linked with key indicators of child ill-being including depression (Griffith & Grolnick, 2014) and anxiety (Kim & Dembo, 2000).

Disentangling Autonomy Support and Psychological Control in Parenting

The evidence bases for the effects of parental autonomy support and parental psychological control are considerable. But there remain questions as to whether autonomy support is beneficial simply because it reflects a lack of psychologically controlling tactics, or as to whether parental psychological control is detrimental just because it reflects an absence of autonomy support. Could parents enhance their child's level of autonomy support merely by reducing psychological control? Or are they separable? SDT contends that the two are related but distinct psychological phenomena, rather than ends of a spectrum (Duineveld et al., 2017; Mageau et al., 2015). In this review, we use meta-analytic methods to address these questions and claims.

Dynamic effects such as those proposed by the dual process model need to be tested whilst accounting for their intercorrelations. A one-stage meta-analytic structural equation model (Cheung, 2015a) can statistically disentangle the effects of parental autonomy support and psychological control. The one-stage model is a simultaneous model that accounts for the correlations between multiple predictors (i.e., autonomy-supportive and psychologically controlling parenting) and multiple outcomes (i.e., child well-being and ill-being) (Cheung, 2015a). The results of one-stage models isolate the variance attributable to each predictor, accounting for their shared variance. It permitted us to see if the hypothesized positive effect of autonomy support occurred independent of psychological control, and vice versa for parental psychological control.

In addition to the independent effects of parental autonomy support and psychological control, a further question specified by SDT's dual process model is whether the "bright" path (i.e., autonomy support to well-being) and "dark" path (i.e., psychological control to ill-

being) (Haerens et al., 2015, p. 26) are larger in magnitude than the cross-paths (i.e., autonomy support to ill-being and psychological control to well-being). The equivalence of the model paths and cross-paths can be compared by statistically contrasting an unconstrained primary model to a model in which the paths and cross-paths are constrained to be roughly equivalent in magnitude (regardless of direction). If constraining the paths makes the model fit less well, it suggests that the paths differ from the cross-paths not only in direction, but also in magnitude, which would be further evidence in favor of the dual process effects. Although technical, this statistical model could have interpersonally and clinically relevant practical interpretations. Evidence in favor of the dual process model could imply that reducing parental psychological control may be especially useful in reducing acute child suffering. However, decreased psychological control would be merely a starting point in the process of boosting child well-being. Support for the model will also suggest that to elevate children beyond *not* depressed, and toward a state of well-being, parents need to also increase autonomy support. It is not a matter of 'either-or,' but rather the dual process model will point to the stronger associations, improving precision regarding how parenting strategies are associated with specific child outcomes (Weisenmuller & Hilton, 2021).

Based on the above theory and evidence we make the following predictions: **Hypothesis 1.** Parental autonomy support links positively with child well-being and negatively with child ill-being. **Hypothesis 2.** Parental psychological control links positively with child ill-being and negatively with child well-being. **Hypothesis 3.** Consistent with the dual process model, the magnitude of the positive effects of parental autonomy support on child well-being and of parental psychological control on child ill-being, will a) persist when statistically controlling for the intercorrelations in the model and b) be stronger than the (negative) cross-paths in the model (i.e., from parental autonomy support to child ill-being,

and from parental psychological control to child well-being). Next, we discuss the evidence regarding possible moderating variables bearing on these main effects.

Assessing the Universal Effects of Autonomy-Supportive and Psychologically Controlling Parenting

Support for Hypotheses 1 and 2 and the dual process model (Hypothesis 3) will provide a set of main effects that we will leverage to clarify other important points of theoretical debate using moderation. We will evaluate the extent to which the univariate main effects of parental autonomy support on child well-being and parental psychological control on child ill-being are moderated by region (countries clustered roughly by continent), relevant aspects of culture (i.e., national individualism and cultural hierarchy), as well as child sex and developmental period.

Does Region or Culture Moderate the Main Effects?

The question of cross-cultural applicability is a crucial point of clarity in SDT's dual process model of parenting. This is because the relevance of autonomy and psychological control and how they pertain to individuals living in more collectivistic and hierarchical cultures has been questioned (Dwairy, 2004; Markus & Kitayama, 1991). For example, Markus and Kitayama (1991) contended that people in collectivist cultures do not 'need' autonomy, because duty and deference to authority are prioritized in their value systems. Thus, the supposed benefits of autonomy support and costs of psychological control are thought relevant primarily to child well-being and ill-being in more individualistic and less culturally hierarchical cultures.

SDT has long affirmed that manifestations of autonomy vary across cultures and contexts. People can autonomously rely on others or defer to an authority they trust (e.g., Bao & Lam, 2008). Similarly, throughout development, children can willingly choose to depend on their parents for structure and guidance and come to endorse their parents' points of view,

especially if parents are experienced as autonomy-supportive (Ryan & Lynch, 1989). In short, variations in cultural expressions of autonomy do not undermine the theoretical claim that feelings of agency are integral to optimal human functioning. Indeed, the theorized effects of parental autonomy support and psychological control appear applicable across a variety of countries and contexts (Chirkov & Ryan, 2001; Luebbe et al., 2018; Sheldon et al., 2009; Soenens et al., 2007). As examples, when the parents of American and Russian high school students were perceived as autonomy-supportive, their students reported more life satisfaction and academic motivation (Chirkov & Ryan, 2001). Chinese adolescents adjusted better to school and had more self-esteem when they experienced parental autonomy support (Xiang et al., 2017), and autonomy support has been linked to life satisfaction in samples of Indian and Nigerian children (Sheldon et al., 2009). The costs of parental psychological control also appear cross-culturally applicable, with consistent results found in individualistic countries and more typically collectivistic and hierarchical countries like China (Luebbe et al., 2018) and South Korea (Soenens et al., 2012).

In this meta-analysis we took a multi-pronged approach to assessing the cross-cultural effects of parental autonomy support and psychological control on child well-being and ill-being. We included region (countries clustered approximately by continent), degree of national individualism, and degree of cultural hierarchy as moderators. We indexed individualism using Hofstede et al.'s (2010) dimensional measure of the extent that a society values personal achievement and freedom of personal expression (individualism) versus loyalty, interdependence, and deference to group or family (collectivism). To assess cultural hierarchy, following Saïb et al. (2024), we used national ratings that reflect the degree to which deference to authority is emphasized in the culture. Testing these moderators will allow us to see if the main effects differ in magnitude, direction, and/or statistical significance across regions, degrees of individualism, or cultural hierarchy. Based on the

evidence reviewed, we predicted **Hypothesis 4:** Region, degree of national individualism, and degree of cultural hierarchy, will not moderate the positive effect of parental autonomy support on child well-being or the positive effect of parental psychological control on child ill-being. Evidence in support of this hypothesis could help the field move beyond past debates about *whether* autonomy support is beneficial for children, and *whether* psychological control relates to child ill-being, and allow future research to address more refined questions concerning the whys behind these effects and to explore their variations and core components.

Does Child Developmental Stage or Sex Moderate the Main Effects?

Experiences of autonomy have been linked with well-being and experiences of psychological control have been linked with ill-being among boys and girls of various ages (Vansteenkiste et al., 2012). Some evidence suggests that psychological control can be especially costly for males, though detrimental for both sexes nonetheless (Bradshaw et al., 2023), while other studies have found no differences (Lansford et al., 2014). According to SDT, parental autonomy support towards daughters and sons is associated with psychological benefits throughout their lifespan.

Parenting approaches that begin early in children's lives can be effectively maintained into adolescence if adapted to be developmentally appropriate (e.g., Pomerantz et al., 2007). Autonomy-supportive parenting is not a one-size-fits-forever approach; it is inherently adaptive. Therefore, a child could perceive autonomy support, and thus experience gains in well-being, throughout various developmental periods as that support evolves and remains developmentally appropriate. The evidence leads us to **Hypothesis 5:** Child developmental stage and sex will not moderate the positive link between parental autonomy support and child well-being, nor the positive link between parental psychological control and child ill-being. Support for the fifth hypothesis will support SDT's claims that the benefits associated

with autonomy support and the costs associated with psychological control also apply

consistently regardless of the sex composition or average age of the included studies.

The Present Review

In this meta-analysis, we aimed to advance SDT by using a meta-analytic approach to

test its dual process model of parenting, which specifies that parental autonomy support and

psychological control link uniquely and independently with child wellness outcomes. We

also assessed the magnitude and direction of the links between parental autonomy support

and parental psychological control with child well-being and ill-being at the univariate level

and sought to provide evidence of their cross-cultural generalizability and the applicability to

male and female children and across the developmental spectrum. (We also report sensitivity

moderator analyses in Online Supplementary Materials S7-S10, about which we did not have

specific hypotheses). The aim of this comprehensive approach was to test a key SDT tenet

that parental autonomy support is consistently related to children's flourishing whereas its

hinderance is consistently related to detrimental outcomes.

Method

Eligibility Criteria

Studies were eligible for inclusion in this review if they: (a) included a measure of

parental autonomy support and/or of parental psychological control consistent with the

definitions above, and (b) included a measure of child well-being and/or ill-being. We

included well-being indexed as life satisfaction, vitality, and positive affect, and/or ill-being

included negative affect, depression, and anxiety. We included both published and

unpublished works and did not impose restrictions on participant characteristics (e.g., age,

sex, or nationality). We concluded our search of the literature on 18 July 2023.

Information Sources

Literature searches were conducted in ERIC, PsycINFO, and Scopus. We also examined the reference lists of the studies initially identified to detect additional or missing studies. Further, we presented preliminary results to eminent SDT researchers in a keynote address at the 2023 SDT Conference in Orlando and asked to be sent any new or unpublished data, which resulted in our receipt of three additional qualifying studies. The search terms are available in Online Supplemental Materials S1.

Study Selection

The above eligibility criteria were applied during title and abstract screening and full-text screening. Two authors and two research assistants were involved in independently screening all studies at the title and abstract stage and the full-text screening stages using the Covidence software. At each stage, every study was screened by at least two screeners, and any conflicts were resolved either via negotiation, or with input from a third screener. The PRISMA flow diagram is included in Online Supplementary Materials S2. See Online Supplementary Materials S3 for the reasons for full-text exclusion. Most studies were excluded because the studies were missing parenting variables consistent with our definitions ($n = 455$) and others because, while the relevant variables were included, the relevant correlation was not reported ($n = 82$). Where correlations were not reported (or when articles could not be accessed in English or at all), all authors were contacted via email. This process resulted in the acquisition of a further four includable studies. Two tables, featured in Online Supplementary Materials S4, present the descriptive statistics of the studies by region, and then descriptive information per study divided by univariate meta-analysis. As shown in S4, the average child age, proportion of females, and level of parent/family socioeconomic status were roughly equivalent across regions. Though, North America and Oceania had a higher degree of college samples (24.17% and 60% respectively, versus the average across the other regions: 11.14%), and Asia has a lower percentage of parents who had completed high school

or higher (62.60% versus 85.76% average across the other regions). This suggests a degree of comparability across variables like child sex, however, variation in college samples and parental education provided an opportunity to test if those variables moderated the results, which we report in Online Supplementary Materials S7-S10.

Data Extraction and Quality Assessment

Two authors and one research assistant extracted relevant data from all included studies. A fourth screener then independently extracted data from a random subset of 20% of the data. Of the 32,708 cells in the data extraction table, 6,509 cells were reviewed (19.96%). Corrections were required in less than 1% of the cells reviewed. Those corrections were made where necessary, prior to analysis.

Moderator Coding

Detailed moderator coding information is reported in Online Supplementary Materials S5. We extracted data according to our six key moderators: 1) region (countries clustered roughly by continent), 2) degree of individualism (using the Hofstede et al., 2010 metrics), 3) degree of cultural hierarchy (see Saïb et al., 2024), 4) developmental periods ('Children' [11 years and under], 'Adolescents' [12-18 inclusive], and 'Adults' [19 and over]), 5) child sex (proportion of female children in the samples), and 6) publication type (journal article or unpublished dissertation). We also coded several additional moderators for sensitivity analyses designed to test the robustness of our results across well-being and ill-being types, target parents, parenting reporters, ill-being and well-being reporters, longitudinal study, college sample, race (for the U.S. studies only), parent/family socioeconomic status, and parent education. These results were not vital to our tests of the dual process model and so are reported in Online Supplementary Materials S7 and S9 for the main effects, and S8 and S10 for the cross paths.

Analytic Strategy

All analyses were performed using R version 4.2.1 (2021-06-23) (R Core Team, 2021). The *metafor* package was used to calculate effect sizes (Viechtbauer, 2010). Pearson's correlations were transformed to Fisher's *z* for analysis. Following modelling, results were back-transformed to enhance interpretability.

Multivariate Meta-Analysis

We used one-stage structural equation modelling using the *metaSEM* package (Cheung, 2015b), to estimate a single, simultaneous meta-analytic model including the paths from parental autonomy support and parental psychological control to child well-being and ill-being, controlling for their shared variance. Controlling for the variance shared between predictors and outcomes allowed us to isolate the variance attributable to each in the prediction of child well-being and ill-being, permitting a formal test of the dual process model. The data for the simultaneous model included correlations for the main effects (e.g., autonomy and well-being) and the cross-paths (e.g., autonomy and ill-being) as well as the correlations between predictors (i.e., parental autonomy support and psychological control) and outcomes (i.e., child well-being and ill-being) when they were included in the same study. However, the one-stage model included all 238 studies, even if they did not have or report all the relevant correlations, due to the model's use of Full Information Maximum Likelihood estimation (FIML). FIML ensures robust and reliable analysis by leveraging all available data, even when some studies have missing data. The FIML approach has been widely adopted in many high-quality meta-analyses (Brun et al., 2021; Wu et al., 2021) due to its proven ability to accurately estimate parameters with incomplete data (Cheung, 2021).

The formal test of the dual process model involved statistically comparing the unconstrained, fully saturated one-stage structural equation model with a model in which the links between: a) parent autonomy and child well-being and parent autonomy and child ill-being and, b) between parent psychological control and child well-being and parent

psychological control and child illbeing, are constrained to be of roughly equivalent

magnitudes. If the constrained paths differed in strength, the model fit for the constrained

models would be reduced compared to the unconstrained model. A reduction in model fit

would indicate the paths differ from the cross-paths in direction *and* statistical magnitude,

which would support SDT's dual process model. To test this, we fit the unconstrained and

constrained models and performed likelihood ratio tests using the *OpenMx* package (Neale et

al., 2016).

Univariate Meta-analyses

We also separately estimated the univariate effects of parental autonomy support on

child well-being and of parental psychological control on child ill-being[1]. Many studies in the

dataset reported multiple relevant effects. To account for dependencies among these effects,

we conducted three-level meta-analytic structural equation models (Cheung, 2015a). Study

identification number was used as the clustering variable. Effect sizes are pooled at the level

of the participant (level 1), while heterogeneity is modelled within (level 2) and between

(level 3) studies (Cheung, 2015a, 2015b). For each model, we report the pooled effect size,

95% confidence intervals, and the amount of heterogeneity within and between studies.

Moderation Analyses

To assess the generalizability of the main effects, we tested whether specific study

features (e.g., the region in which they were collected) moderated the baseline models by

entering them as covariates in meta-regressions (see Van Houwelingen et al., 2002). To

ensure the comparison between the baseline (i.e., no covariates) and moderated (i.e., with

covariates) models was valid, we ensured that the studies/effects included were consistent

---

[1] We tested the univariate cross-paths from autonomy support to child ill-being and from parental psychological control to child well-being, as well as moderators of each. These results are reported in Online Supplementary Materials S8 and S10. These results are not central to the univariate tests of moderation in the dual process model, but we do report their effects in the body of the manuscript at the bottom of the each of the univariate model's results.

across each pair of unmoderated-moderated models. First, we fit the moderated model (i.e.,

the model including the covariate) to establish the studies/effects that had information about

that moderator. Then we refit the baseline model (i.e., with no covariates) using only the

studies/effects with data for the moderator. We then compared the moderated models to their

nested baseline model using log likelihood ratio tests. The *p* values from these tests assessed

only whether the fit of the baseline model was significantly improved by the inclusion of the

moderator (Cheung, 2015a), not whether the moderator levels differed. To determine whether

moderator levels did or did not significantly differ from each other, we inspected whether

their confidence intervals overlapped (Viechtbauer, 2010). Consistent with advice received

during peer review, we included moderator levels in our results only if five or more studies

were present at that level.

Assessment of Bias

Publication bias was assessed using the multi-level variant of the Egger's test

(Rodgers & Pustejovsky, 2021). In meta-regressions we used the standard error of the

estimates as predictors and assessed if model fit was statistically significantly improved using

likelihood ratio tests. If the baseline model fit was improved by the inclusion of the standard

error, then estimates and uncertainty are correlated which can indicate publication bias.

Open Science Practices

For the purposes of open science and transparency, the complete R code and data

underlying these analyses has been made publicly available on the Open Science Framework

(https://osf.io/rcpw2/).

Results

We identified 238 eligible manuscripts spanning 51 years, containing 1,040 effect

sizes. Total participants numbered more than 126,423 (calculated using the largest sample

size reported per study). Most studies were conducted in North America (48.98%), followed

by Western Europe (24.08%), and East Asia (16.73%) with a total of 38 countries

represented. Most studies were cross-sectional (76.47%, $k = 182$), with under a third being

longitudinal studies (23.53%, $k = 56$). Most studies included general community samples

(82.35%, $k = 196$), less than a fifth of studies referred to college samples (17.65%, $k = 42$).

Systematic Review

Figure 1 serves as an at-a-glance reference for the specific and moderating effects,

and as an evidence gap map. Each of the four univariate meta-analytic models (e.g., AUTN &

WB, which is parental autonomy support and child well-being) is presented down a vertical

column. The boxes within each of those columns (e.g., Region, Child age, etc.) summarize

the moderator results for each univariate model. The rows in each box represent the level/s of

that moderator. Empty rows or boxes represent an absence of data (or moderator levels for

which there were less than five studies), the boxes with white backgrounds indicate

moderators that were statistically significant in that model (e.g., the Child age moderator was

statistically significant for the link between parental psychological control and child ill-

being), and grey boxes indicate moderators that were not statistically significant in that

model.

The evidence gap map reveals relatively few areas lacking data, with a wide

representation of effects from studies spanning a variety of regions, developmental stages,

and proportions of male and female children. There were no effects reported for the link

between parental autonomy support and child well-being or for the cross-path association

between parental psychological control and child well-being in the Middle East. The African,

Oceanian, and South American regions were not represented in any of the models, meaning

less than five studies have examined these variable pairs in these regions. Autonomy-

supportive and psychologically controlling parenting styles have also been studied less

frequently in relation to well-being outcomes than they have for ill-being outcomes. Both

models with child well-being as the outcome had a lack of data from children (samples aged

11 years and under) and from dissertations. Aside from these exceptions, the systematic

review and evidence gap map indicated relatively broad coverage and should thus render this

meta-analysis robust though ripe for further study in these underrepresented areas. In total, 62

studies looked at parental autonomy support only, 140 studied parental psychological control

only, 36 studied both, 21 studies looked at well-being only, 177 looked at ill-being only, and

40 studied both. Thirteen studies contained all variables. [INSERT FIGURE 1 HERE]

Multivariate Meta-analysis

We fit a one-stage meta-analytic structural equation model to simultaneously model

the paths from parent autonomy support to child well-being and ill-being and from parental

psychological control to child well-being and ill-being. The model was fully saturated with

zero degrees of freedom and so had perfect fit. Detailed parameters for each path are

available in Online Supplementary Materials S6. As shown in Figure 2, the one-stage meta-

analytic structural equation model indicated support for the dual process model. Accounting

for its negative correlation with psychologically controlling parenting, parental autonomy

support remained moderately, positively related to child well-being ($r = 0.26$, 95% CI [0.20,

0.31]). The cross-path from parental autonomy support to ill-being was small and negative ($r

= -0.14$, [-0.18, -0.10]). Accounting for its correlation with parental autonomy support, the

path from parental psychological control to ill-being was moderate and positive ($r = 0.20$,

[0.17, 0.23]), whereas the cross-path to well-being was small, negative, and not statistically

significant ($r = -0.07$, [-0.15, 0.01]). This pattern of results supported the dual process claim

that parental autonomy support and parental psychological control are separable phenomena,

each with their own unique effects on child well-being and ill-being.

To test the equivalence of the effects of each predictor on the outcomes in terms of

magnitude (as well as direction), we compared the unconstrained, fully saturated one-stage

meta-analytic model against models in which each of parental autonomy and parental psychological control were constrained to have the same magnitude of effect (albeit with different signs) on both ill-being and well-being. In both cases, model fit was statistically significantly worse when the paths were constrained to be equivalent, indicating they differed not only in direction but also in statistical magnitude. The likelihood ratio tests for the comparison between the baseline model and the model in which parental autonomy support had an equivalent effect on well-being *and* ill-being was $\chi^2 = 10.45$, $p = 0.001$. The result for the comparison between the baseline and the constrained model in which psychological control had an equivalent effect on well-being *and* ill-being was $\chi^2 = 6.68$, $p = 0.010$. These results suggested that parental autonomy support linked more strongly to child well-being that it did to child ill-being, and parental psychological control linked more strongly to child ill-being than to child well-being, though there were non-negligible cross-paths too. [INSERT FIGURE 2]

Univariate Meta-analyses

Parental Autonomy Support and Child Well-being

Forty-six studies (including 120 effect sizes) reported data that could be pooled. There was a statistically significant, moderate-to-strong, positive pooled effect of parental autonomy support on child well-being, $r = 0.30$ [95% CI 0.26, 0.33]. Inspection of the Q statistic revealed statistically significant heterogeneity, $Q(119) = 1757.76$, $p < 0.001$. The heterogeneity at level 2 (within study) was 31.31%. The heterogeneity at level 3 (between study) was 59.64%. The total amount of heterogeneity was considerable, though was explained predominantly by between-study variation which likely suggests variation in methods including variable operationalization. We did not find evidence of publication bias, $\chi^2(1) = 0.01$, $p = 0.90$.

As shown in Table 1, the only variable that moderated the baseline model was 'Child age' ($R^2_{(2)}$ = 2.42%; $R^2_{(3)}$ = 17.21%). To assess if the levels of the 'Child age' moderator differed from each other, we inspected the confidence intervals for each. The confidence intervals for adults did not overlap with those for adolescents, suggesting that, while the link between parental autonomy support and child well-being was moderate-to-strong for adolescent and adult samples, the link was strongest for adolescent samples.

Of the supplementary moderators, reported in Online Supplementary Materials S7, 'Well-being type' and 'College sample' were statistically significant. To interpret the moderation results, we compared the degree of overlap in the confidence intervals across moderator levels for which the likelihood ratio test was statistically significant. The effect of parental autonomy support on child well-being was positive for all well-being types and regardless of college sample status, although the effects were especially strong for life satisfaction (compared to positive affect), and for non-college samples. (The moderation results for the univariate cross-path from parental autonomy support to child ill-being are elaborated in Online Supplementary Materials S8. There was a statistically significant, moderate, negative pooled effect of parental autonomy support on child illbeing, r = -0.21 [95% CI -0.24, -0.18].) [INSERT TABLE 1 ABOUT HERE]

Psychologically Controlling Parenting and Child Ill-being

One hundred and seventy-one studies (including 493 effect sizes) reported data that could be pooled. There was a statistically significant moderate or "typically"-sized positive pooled effect of parental psychological control on child ill-being, r = 0.26 [95% CI 0.23, 0.28]. Inspection of the Q statistic revealed statistically significant heterogeneity $Q(492)$ = 7063.83, p < 0.001. The heterogeneity at level 2 (within study) was 24.29%. The heterogeneity at level 3 (between study) was 69.62%. We did not find evidence of publication bias $\chi^2(1)$ = 0.33, p = 0.57.

As shown in Table 2, the only covariate that statistically significantly moderated the baseline model was 'Child sex' ($R^2_{(2)}$ = 4.45%; $R^2_{(3)}$ = 0.00%). Moderation by 'Child sex' indicated that while the positive effect of parental psychological control was moderate and positive regardless of the proportion of daughters in the samples, the effect increased in strength as did the proportion of daughters. In other words, the costly effect of parental psychological control may be especially pronounced in samples comprising more daughters.

Of the supplementary moderators, reported in Online Supplementary Materials S9, 'Parenting reporter', 'Parental education', 'Ill-being type', and 'Target parent', were statistically significant. Moderation by 'Parenting reporter' indicated that the negative effect of parental psychological control was consistently positive when parenting was reported by children, mothers, or fathers; however, the effect was not statistically significant when reported by others (e.g., trained observers, teachers etc.). Moderation by 'Parental education' indicated that, while the effect of parental psychological control on child ill-being was positive regardless of parental education, the strength of the link decreased as the proportion of parents who had completed high school or above increased. The model was improved when information about 'Ill-being type' and 'Target parent' was included. However, overlap in the confidence intervals across the four levels of 'Ill-being type' (i.e., depression, anxiety, negative affect, and combined) and three levels of 'Target parent' (i.e., mothers, fathers, both/unspecified) indicated they were not statistically significantly different from each other. It is not uncommon to have a statistically significant log likelihood ratio test in the presence of moderator levels that do not differ. The log likelihood ratio test only tests if the model was improved by including the moderator, it does not evaluate whether the moderator levels differ (Viechtbauer, 2010). (The moderation results for the univariate cross-path from parental psychological control to child well-being are elaborated in Online Supplementary Materials

S10. There was a statistically significant, small, negative pooled effect of parental control on child well-being, r = -0.18 [95% CI -0.25, -0.11].) [INSERT TABLE 2 ABOUT HERE]

Discussion

In this review, we tested SDT's dual process model of parenting in relation to child well-being and ill-being, and the extent that its effects apply across demographic variables. We found that parental autonomy support was positively linked with child well-being (Hypothesis 1), while parental psychological control was positively associated with child ill-being (Hypothesis 2). These main effects remained significant after controlling for their intercorrelations, and their magnitudes exceeded the cross-paths (Hypothesis 3). The effects were relatively consistent across regions, cultural dimensions (Hypothesis 4), developmental stages, and child sexes (Hypothesis 5). Notably, autonomy support was related to beneficial outcomes particularly strongly in samples of adolescents, and psychological control had a stronger association with ill-being in studies with more female children. These findings suggest that the benefits associated with parental autonomy support and the costs associated with psychological control are likely to be broadly generalizable.

Support for the Dual Process Model

Our meta-analysis meaningfully expands SDT by lending support to the generalizability of its claims and to the dual process model. The dual process model aligns with the notion of basic psychological needs being both satisfied *and* frustrated (Chen et al., 2015). Evidence has shown that frustration of basic needs is more detrimental than merely low satisfaction (Vansteenkiste et al., 2020), and that need satisfaction correlates more strongly with positive outcomes (Coxen et al., 2023). These patterns indicate that the precursors to need satisfaction and need frustration—which are autonomy support and psychological control, respectively—should also have dual process links to important variables like well-being and ill-being. Our findings showed meta-analytic support for these

claims. The simultaneous model indicated that the effects of parental autonomy support and psychological control on child well-being and ill-being are specialized and partially independent (Deci & Ryan, 2000; Grolnick & Pomerantz, 2009). Autonomy support appears related to beneficial outcomes due to its inherent qualities, rather than merely its lack of psychological control, and vice versa for the harms associated with psychological control. Our study is the first study to use this meta-analytic method to evaluate SDT's dual process model, providing a comprehensive and nuanced understanding of these parenting strategies' distinct associations with child well-being and ill-being.

Future research could expand our findings through additional, rigorous longitudinal and experimental studies to assess directionality, mediation, and long-term dynamics. Desjardins and Leadbeater (2017), for example, found that decreases in parental psychological control, over a six-year period, led young adults to experience better educational and occupational adjustment via decreases in depression and anxiety. Evidently, the beneficial effects of reduced psychological control ill-being may serve as mechanisms for effective adjustment to adulthood. In contrast, increases in parental psychological control appear to predict gains in maladaptive perfectionism one-year later, which led to increases in child depression after a further year (Soenens at al., 2008). In terms of autonomy support, Wang and Gai (2024) showed across three waves of data that gains in parental autonomy support were associated bidirectionally with gains in children's self-regulation. The more autonomy-supportive a parent is, the more self-regulated their child becomes, and vice versa. Expanding upon these studies will test the initial findings and stride towards a comprehensive map of the pathways through which parenting relates to child development. Indeed, if corroborated by experimental studies, the dual process model of parenting could enhance intervention research and policy formulation. It would enable a more precise understanding of psychologically controlling practices as risk factors and autonomy-supportive strategies as

means to promote and protect well-being. The extent to which interventions decrease parental psychological control would offer a powerful remedy for mitigating children's symptoms of ill-being, such as depression and anxiety. While the aim to reduce parental psychological control should be a priority, it should not replace the aim of enhancing parental autonomy support, which may be especially beneficial for child well-being.

Cross-Cultural Implications

Our findings also suggest that parental autonomy support relates positively to child well-being across various regions and cultural contexts, challenging the notion that autonomy is primarily valued in individualistic cultures (Markus & Kitayama, 1991). Similarly, parental psychological control was linked with psychological costs across different cultural dimensions. The moderation results for culture underscore the generalizable benefits of parental autonomy support in bolstering child well-being, even if manifestations of autonomy support may vary across cultures. It is important to note, however, that the database comprised a relative lack of non-Western samples compared to those from the United States and Europe. Thus, while the findings are likely to be robust for Western countries, more data are needed to reach same degree of precision for other regions.

Sensitivity Analyses: Ensuring Robustness and Generalizability

Our sensitivity analyses—reported in Online Supplementary Materials S7-S10—showed the reliability of our results across a variety of methodological and demographic variables. While there was some statistically significant moderation, none undermined the overall pattern of results. For example, well-being type moderated the link between parental autonomy support and child well-being, with life satisfaction showing a stronger association than positive affect. This is consistent with evidence from organizational psychology, that job autonomy is linked with stable, enduring states such as perceived self-efficacy (Lange & Kayser, 2022), rather than more transient mood states like work stress (DeHaan et al., 2024).

The association between parental psychological control and child ill-being varied depending on the parenting reporter. The negative effects of psychological control were consistent when parenting was reported by children and their parents. However, observers' ratings of psychological control were not linked to child well-being. This discrepancy could be attributed to the subtlety of psychologically controlling parenting behaviors, which may be covert and harder for external observers to detect (Kho et al., 2022). Consequently, reports from within parent-child dyads, tend to have more predictive utility for identifying the nuanced impacts of psychological control (Kho et al., 2022). These findings highlight the importance of perspective in parenting research and underscore the complexity of accurately assessing the effects of psychological control.

While parental socioeconomic status and education did not moderate the effect of parental autonomy support on child well-being, parental education did moderate the link between parental psychological control and child ill-being. The children in studies with lower average levels of parental education had more pronounced costs associated with parental psychological control. Evidence has long suggested that lower parental education is associated with less adaptive coping strategies and communication skills which may amplify the negative effects of suboptimal parenting on children (e.g., Conger et al., 1992), though these possibilities need to be further researched in the dual process model of parenting.

Implications for Parenting

If these main effects here in follow the causal paths suggested by some of the literature (i.e., from parent to child, at least to some extent), how should parents reconcile the benefits of providing freedoms to their children, while also protecting them from potential harms? In SDT's view, protection versus autonomy is a false dichotomy. Protection does not necessitate the imposition of unexplained rules and regulations, punishments, or contingent regard. And parental autonomy support is not the provision of unabated liberty at the cost of

personal safety. Indeed, safety and boundaries are fundamental to the provision of autonomy support as defined within SDT and, therefore, this meta-analysis. Instead of asking whether protection is more important than autonomy support, ideally parents would focus on ensuring there are opportunities for autonomy within the safe familial frameworks they establish.

Limitations

The literature under review is limited in two primary ways. First, most studies in our review focused on cross-sectional correlations between the variables of interest. The conclusions are therefore limited insofar as we cannot provide evidence about the temporal ordering of these variables nor evidence regarding other variables that might account for the associations. Our framing of parenting strategies predicting child outcomes is directional (i.e., from parent to child), however, our claim is not that the links are *uni*directional or unmediated. On the contrary, we expect——and there is increasing evidence to suggest (Gault-Sherman, 2012)—that parenting strategies and child outcomes are bidirectionally linked. Just as an engaged, autonomy-supportive parent is likely to have a child with more well-being, a child with higher well-being is likely to encourage parental warmth and autonomy support (e.g., Duineveld et al., 2017; Wang & Gai, 2024). Given that parent and child variables are likely bidirectionally linked, targeting the adults' behaviors is a pragmatic starting point.

As noted, the lack of studies from some world regions limits our conclusions. The included studies were sufficient to suggest that our results are likely to be reliable and replicable in North American, European, and possibly Asian cultural contexts, but conclusions about parental autonomy support and psychological control and child well-being and ill-being require further study in other regions, especially in Oceanian, South American, and African countries.

Our review may also be limited by our use of specific search terms on the dependent variable side of the model. We searched for outcomes that are broadly hedonic well-being/ill-being outcomes, meaning we do not know the extent that parental autonomy support and psychological control account for variations in more eudaimonic outcomes such as meaning, purpose, and pro- and anti-sociality, nor child outcomes assessed earlier in life such as committed compliance or executive functioning. We have also focused on the role of autonomy support, given it has the richest evidence base. Yet, this means that the other basic psychological needs of relatedness and competence remain to be meta-analytically explored in future research. Finally, the limited presence of gray literature could limit our review. We sought, but did not receive any unpublished research, though we note that 181 of the effects (17.4%) are from non-peer-reviewed works, like doctoral theses.

Conclusions

We have reviewed evidence that parental autonomy support relates positively to child well-being across regions and cultures, male and female children, and developmental periods. In all cases parental autonomy support appears associated with gains in children's well-being. We also found theoretically consistent results for the costs associated with parental psychological control. Children need to be understood, respected, and scaffolded as well as protected from manipulation, intrusion, and violations of their emerging sense of self, claims to which the studies comprising this meta-analysis are a testament. Our hope is that this meta-analysis clarifies the theory sufficiently to allow future researchers to progress towards refined questions about other potential moderators of and nuances within these important effects.

References

Bao, X-h., & Lam, S-f. (2008). Who makes the choice? Rethinking the role of autonomy and

relatedness in Chinese children's motivation. *Child Development*, *79*(2), 269-283.

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child

Development*, *67*(6), 3296-3319. https://doi.org/https://doi.org/10.2307/1131780

Bindman, S. W., Pomerantz, E. M., & Roisman, G. I. (2015). Do children's executive

functions account for associations between early autonomy-supportive parenting and

achievement through high school? *Journal of Educational Psychology*, *107*(3), 756-

770. https://doi.org/https://doi.org/10.1037/edu0000017.

Bradshaw, E. L., Anderson, J. R., Banday, M. A., Basarkod, G., Daliri-Ngametua, R., Ferber,

K. A., Henry, D., & Ryan, R. M. (2023). A quantitative meta-analysis and qualitative

meta-synthesis of aged care residents' experiences of autonomy, being controlled, and

optimal functioning. *The Gerontologist*, gnad135.

Brun, L., Pansu, P., & Dompnier, B. (2021). The role of causal attributions in determining

behavioral consequences: A meta-analysis from an intrapersonal attributional

perspective in achievement contexts. *Psychological Bulletin, 147*(7), 701-718.

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J.,

Duriez, B., Lens, W., Matos, L., & Mouratidis, A. (2015). Basic psychological need

satisfaction, need frustration, and need strength across four cultures. *Motivation and

Emotion*, *39*(2), 216-236. https://doi.org/https://doi.org/10.1007/s11031-014-9450-1

Cheung, M. W.-L. (2015a). *Meta-analysis: A structural equation modeling approach*. John

Wiley & Sons.

Cheung, M. W.-L. (2015b). metaSEM: An r package for meta-analysis using structural

equation modeling. *Frontiers in Psychology*, *5*, 1521.

https://doi.org/https://doi.org/10.3389/fpsyg.2014.01521

Cheung, M. W.-L. (2021). Meta-analytic structural equation modeling. In M. A. Hitt (Ed.), *Oxford research encyclopedia of business management*. Oxford University Press.

Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and US adolescents: Common effects on well-being and academic motivation. *Journal of Cross-Cultural Psychology*, *32*(5), 618-635.

Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1993). Family economic stress and adjustment of early adolescent girls. *Developmental Psychology, 29*(2), 206-219.

Coxen, L., van der Vaart, L., Van den Broeck, A., Rothmann, S., & Schreurs, B. (2023). What matters more for daily well-and ill-being? The dual pathways of daily need satisfaction and frustration. *Current Psychology*, 1-14.

DeHaan, C. R., Bradshaw, E. L., Castillo-Diaz, S., Trautman, T. C., Rigby, C. S., & Ryan, R. M. (2024). *Energy in the workplace: Job demands, job resources, and employees' inner resources as pathways to organizational outcomes*. [Unpublished manuscript]

Desjardins, T., & Leadbeater, B. J. (2017). Changes in parental emotional support and psychological control in early adulthood: Direct and indirect associations with educational and occupational adjustment. *Emerging Adulthood, 5*(3), 177-190.

Duineveld, J. J., Parker, P. D., Ryan, R. M., Ciarrochi, J., & Salmela-Aro, K. (2017). The link between perceived maternal and paternal autonomy support and adolescent well-being across three major educational transitions. *Developmental Psychology*, *53*(10), 1978-1994. https://doi.org/https://doi.org/10.1037/dev0000364

Dwairy, M. (2004). Parenting styles and mental health of Palestinian–Arab adolescents in Israel. *Transcultural Psychiatry*, *41*(2), 233-252.

Gault-Sherman, M. (2012). It's a two-way street: The bidirectional relationship between parenting and delinquency. *Journal of Youth and Adolescence*, 41, 121-145.

Griffith, S. F., & Grolnick, W. S. (2014). Parenting in Caribbean families: A look at parental

control, structure, and autonomy support. *Journal of Black Psychology*, *40*(2), 166-

190. https://doi.org/https://doi.org/10.1177/0095798412475085

Grolnick, W. S., Deci, E. L., & Ryan, R. M. (1997). Internalization within the family: The

self-determination theory perspective. In J. E. Grusec & L. Kuczynski (Eds.),

Parenting and children's internalization of values: A handbook of contemporary

theory (pp. 135-161). Wiley.

Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B., & Van Petegem, S. (2015). Do

perceived autonomy-supportive and controlling teaching relate to physical education

students' motivational experiences through unique pathways? Distinguishing between

the bright and dark side of motivation. *Psychology of Sport and Exercise*, *16*, 26-36.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of*

the mind. HarperCollins.

Jang, H., Kim, E. J., & Reeve, J. (2016). Why students become more engaged or more

disengaged during the semester: A self-determination theory dual-process model.

Learning and Instruction, *43*, 27-38.

Joussemet, M., Koestner, R., Lekes, N., & Landry, R. (2005). A longitudinal study of the

relationship of maternal autonomy support to children's adjustment and achievement

in school. *Journal of Personality*, *73*(5), 1215-1236.

Joussemet, M., Vitaro, F., Barker, E. D., Côté, S., Nagin, D. S., Zoccolillo, M., & Tremblay,

R. E. (2008). Controlling parenting and physical aggression during elementary school.

Child Development, *79*(2), 411-425.

Kho, C., Main, A., & Rote, W. M. (2022). Maternal psychological control and mother–

adolescent conflict discussion quality: Different perceptions are key. *Journal of*

Family Psychology, *36*(6), 896-906. https://doi.org/10.1037/fam0000943

Kim, C. W., & Dembo, M. H. (2000). Social-cognitive factors influencing success on college

    entrance exams in South Korea. *Social Psychology of Education*, *4*(2), 95-115.

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's

    behavior: The differential effects of controlling versus informational styles on

    children's intrinsic motivation and creativity. *Journal of Personality, 52*(3), 233-248.

Lange, M., & Kayser, I. (2022). The role of self-efficacy, work-related autonomy and work-

    family conflict on employee's stress level during home-based remote work in

    Germany. *International Journal of Environmental Research and Public Health, 19*(9).

Lansford, J. E., Laird, R. D., Pettit, G. S., Bates, J. E., & Dodge, K. A. (2014). Mothers' and

    fathers' autonomy-relevant parenting: Longitudinal links with adolescents'

    externalizing and internalizing behavior. *Journal of Youth and Adolescence*, *43*(11),

    1877-1889. https://doi.org/https://doi.org/10.1007/s10964-013-0079-2

Luebbe, A. M., Tu, C., & Fredrick, J. W. (2018). Socialization goals, parental psychological

    control, and youth anxiety in Chinese students: Moderated indirect effects based on

    school type. *Journal of Youth and Adolescence*, *47*(2), 413-429.

Mageau, G. A., Ranger, F., Joussemet, M., Koestner, R., Moreau, E., & Forest, J. (2015).

    Validation of the perceived parental autonomy support scale (P-PASS). *Canadian*

    Journal of Behavioural Science, *47*(3), 251-262.

Markus, H. R., & Kitayama, S. (1991). Cultural variation in the self-concept. In *The self:*

    Interdisciplinary approaches (pp. 18-48). Springer.

Neale, M. C., Hunter, M. D., Pritikin, J. N., Zahery, M., Brick, T. R., Kirkpatrick, R. M.,

    Estabrook, R., Bates, T. C., Maes, H. H., & Boker, S. M. (2016). OpenMx 2.0:

    Extended structural equation and statistical modeling. *Psychometrika*, *81*, 535-549.

Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research*, *77*(3), 373-410.

Rodgers, M. A., & Pustejovsky, J. E. (2021). Evaluating meta-analytic methods to detect selective reporting in the presence of dependent effect sizes. *Psychological Methods*, *26*(2), 141-160. https://doi.org/https://doi.org/10.1037/met0000300

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. The Guildford Press.

Ryan, R. M., & Lynch, J. H. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Development*, *60*, 340-356.

Saïb, N., Joussemet, M., Cavenaghi, A., Robichaud, J.-M., Mageau, G., & Koestner, R. (2024). Parental autonomy support and child psychosocial adjustment: Examining the role of cultural hierarchy**.** *International Journal of Child, Youth and Family Studies.*

Schaefer, E. S. (1959). A circumplex model for maternal behavior. *Journal of Abnormal and Social Psychology, 59*(2), 226-235. https://doi.org/https://doi.org/10.1037/h0041114

Sheldon, K. M., Abad, N., & Omoile, J. (2009). Testing self-determination theory via Nigerian and Indian adolescents. *International Journal of Behavioral Development*, *33*(5), 451-459. https://doi.org/https://doi.org/10.1177/0165025409340095

Soenens, B., Luyckx, K., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2008). Maladaptive perfectionism as an intervening variable between psychological control and adolescent depressive symptoms: A three-wave longitudinal study. *Journal of Family Psychology, 22*(3), 465-474.

Soenens, B., Park, S.-Y., Vansteenkiste, M., & Mouratidis, A. (2012). Perceived parental

   psychological control and adolescent depressive experiences: A cross-cultural study

   with Belgian and South-Korean adolescents. *Journal of Adolescence*, *35*(2), 261-272.

Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., & Ryan, R.

   M. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of

   promotion of independence versus promotion of volitional functioning.

   Developmental Psychology, *43*(3), 633-646.

Stearns, P. N. (2019). Happy children: A modern emotional commitment. *Frontiers in*

   Psychology, *10*, 2025. https://doi.org/https://doi.org/10.3389/fpsyg.2019.02025

Tripathi, R., Cervone, D., & Savani, K. (2018). Are the motivational effects of autonomy-

   supportive conditions universal? Contrasting results among Indians and Americans.

   Personality and Social Psychology Bulletin, *44*(9), 1287-1301.

United Nations General Assembly. (1989). *Convention on the Rights of the Child*.

van der Kaap-Deeder, J., Vansteenkiste, M., Soenens, B., & Mabbe, E. (2017). Children's

   daily well-being: The role of mothers', teachers', and siblings' autonomy support and

   psychological control. *Developmental Psychology*, *53*(2), 237.

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic

   psychological need satisfaction and need frustration as a unifying principle. *Journal*

   of Psychotherapy Integration, *23*(3), 263.

Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory:

   Advancements, critical themes, and future directions. *Motivation and Emotion*, *44*, 1-

   31. https://doi.org/https://doi.org/10.1007/s11031-019-09818-1

Vansteenkiste, M., Sierens, E., Goossens, L., Soenens, B., Dochy, F., Mouratidis, A.,

   Aelterman, N., Haerens, L., & Beyers, W. (2012). Identifying configurations of

perceived teacher autonomy support and structure: Associations with self-regulated learning, motivation and problem behavior. *Learning and Instruction*, *22*(6), 431-439.

Vasquez, A. C., Patall, E. A., Fong, C. J., Corrigan, A. S., & Pine, L. (2016). Parent autonomy support, academic achievement, and psychosocial functioning: A meta-analysis of research. *Educational Psychology Review*, *28*(3), 605-644.

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, *36*(3), 1-48. https://doi.org/10.18637/jss.v036.i03

Wang, S., & Gai, X. (2024). Bidirectional relationship between positive parenting behavior and children's self-regulation: A three-wave longitudinal study. *Behavioral Sciences*, *14*(1), 38. https://doi.org/10.3390/bs14010038

Van Houwelingen, H. C., Arends, L. R., & Stijnen, T. (2002). Advanced methods in meta-analysis: Multivariate approach and meta-regression. *Statistics in Medicine, 21*(4), 589-624.

Weisenmuller, C., & Hilton, D. (2021). Barriers to access, implementation, and utilization of parenting interventions: Considerations for research and clinical applications. *American Psychologist, 76*(1), 104–115. https://doi.org/10.1037/amp0000613

Wu, H., Guo, Y., Yang, Y., Zhao, L., & Guo, C. (2021). A meta-analysis of the longitudinal relationship between academic self-concept and academic achievement. *Educational Psychology Review, 33*, 1749-1778.
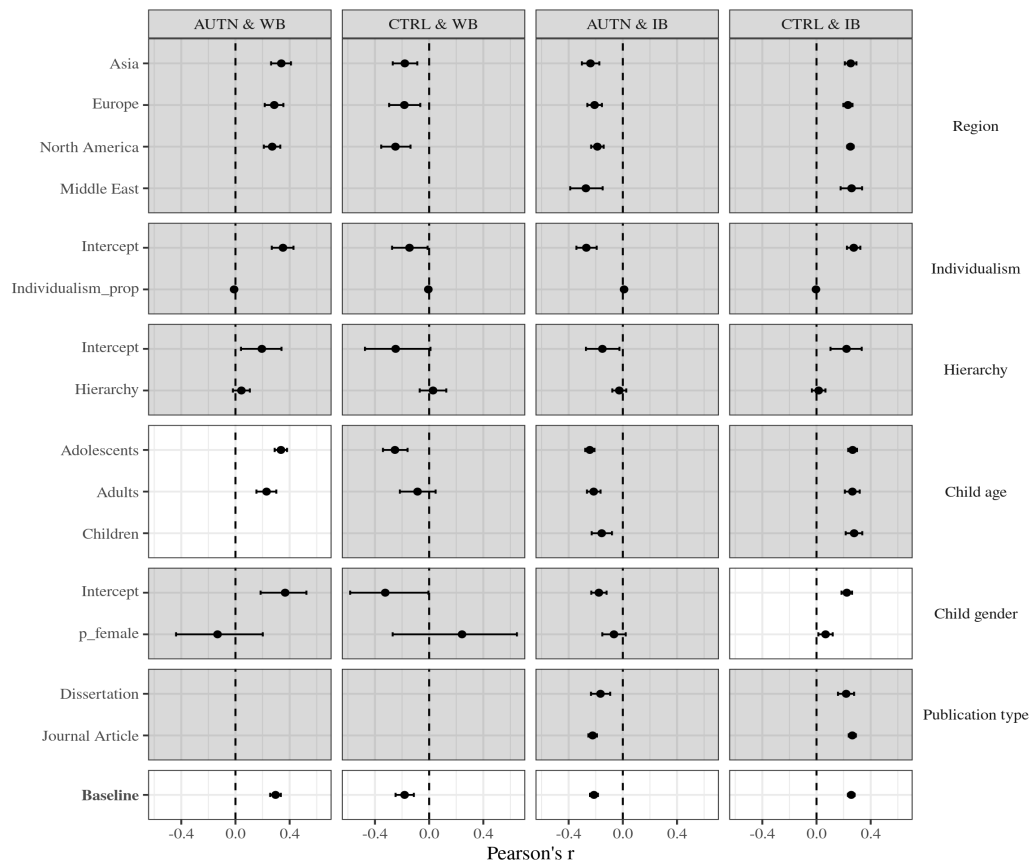
Figure 1. Moderation Analysis of the Effects of Parental Autonomy Support and Parental Psychological Control Across the Univariate Meta-Analytic Models.

Note. AUTN = parental autonomy support; WB = child well-being; CTRL = parental psychological control; IB = child ill-being. Each of the four univariate models (e.g., AUTN & WB, which is parental autonomy support with child well-being) is presented down a vertical column. The large boxes within each of those columns (e.g., Region, Child age etc.) summarize the moderator results in each of the univariate meta-analytic models (e.g., Moderation by child age in the AUTN & WB meta-analysis, is the fourth box from the top within the AUTN & WB vertical column). The rows within each box represent the level/s of that moderator (e.g., Asia within Region in the AUTN & WB meta-analysis, is the top line in the first box in the AUTN & WB vertical column). The box at the bottom of each column shows the baseline effect for each model. Empty rows represent either a total absence of available data, or that fewer than five studies were present at those levels of the moderator. Boxes with white backgrounds indicate moderators that were statistically significant. Grey backgrounds indicate moderators that were not statistically significant.
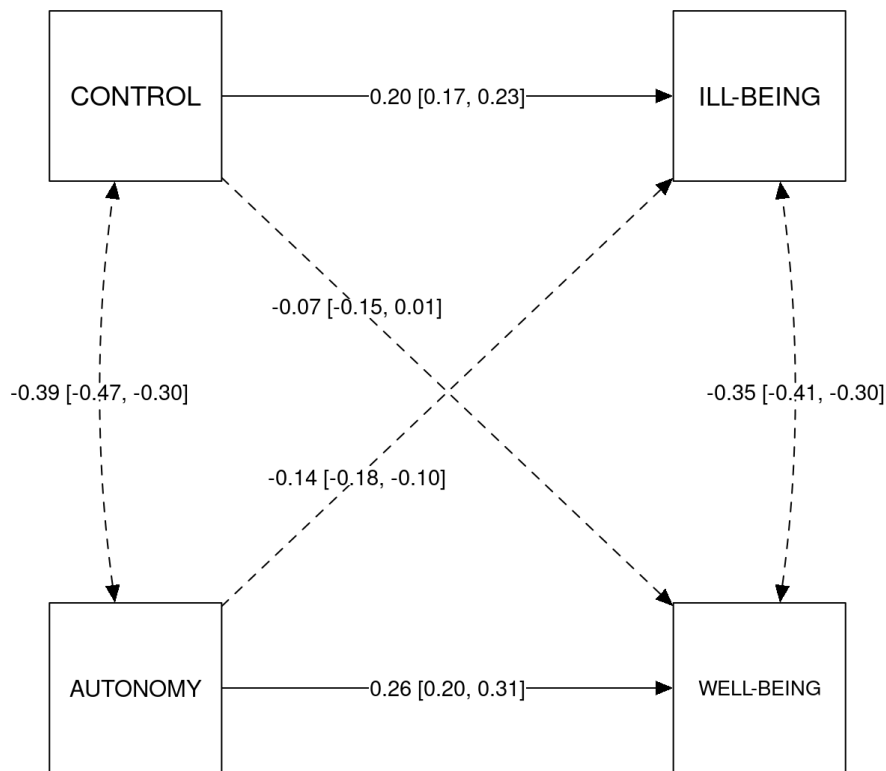
Figure 2. Pooled Effect Sizes Linking Autonomy-Supportive and Psychologically Controlling parenting with Child Well-being and Child Ill-Being in a Simultaneous One-stage Meta-Analytic Structural Equation Model that Controls for the Associations Between Predictors and Outcomes.

Note. CONTROL = parental psychological control, AUTONOMY = parental autonomy support, ILL-BEING = child ill-being, WELL-BEING = child well-being. Solid lines denote positive correlations, dotted lines denote negative correlations. The statistical significance of the effects is conferred by the adjacent 95% confidence intervals. The only statistically non-significant path in this model is from parental psychological control to child well-being because the confidence intervals include zero.

Table 1. *Meta-Regressions for the Pooled Link Between Parental Autonomy Support and Child Well-being, and the Assessment of Five Possible Moderators of the Pooled Effect*

Moderation	k	n	r [95% CI]	z′	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Baseline	46	120	0.30 [0.26, 0.33]	0.31	0.02	< 0.001	0.01	0.02			
Region	40	107					0.01	0.02	0.00	15.62	$\chi^2(2) = 2.26$, $p = 0.32$
Asia	12	21	0.34 [0.26, 0.41]	0.35	0.04	< 0.001					
Europe	14	47	0.29 [0.22, 0.35]	0.29	0.04	< 0.001					
North America	20	39	0.27 [0.21, 0.33]	0.28	0.03	< 0.001					
Individualism	43	112					0.01	0.02	0.00	15.17	$\chi^2(1) = 2.37$, $p = 0.12$
Intercept			0.35 [0.27, 0.43]	0.37	0.05	< 0.001					
Individualism prop			-0.01 [-0.02, 0.00]	-0.01	0.01	0.12					
Hierarchy	43	112					0.01	0.02	0.00	7.33	$\chi^2(1) = 1.83$, $p = 0.18$
Intercept			0.19 [0.04, 0.34]	0.20	0.08	0.013					
Hierarchy			0.04 [-0.02, 0.11]	0.04	0.03	0.17					

Moderation	k	n	r [95% CI]	z′	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Child age	38	98					0.01	0.01	2.42	17.21	$\chi^2(1) = 6.31$, $p = 0.012$
Adolescents	28	68	0.34 [0.29, 0.38]	0.35	0.03	< 0.001					
Adults	12	30	0.23 [0.15, 0.28]	0.23	0.04	< 0.001					
Child sex	43	114					0.01	0.02	0.38	2.06	$\chi^2(1) = 0.59$, $p = 0.44$
Intercept			0.37 [0.19, 0.52]	0.38	0.10	< 0.001					
Female prop.			-0.13 [-0.44, 0.20]	-0.13	0.17	0.44					

Note. Baseline = the meta-analytic model without any predictors. k = number of studies, n = number of effects. r = Pearson's correlation, z = Fisher's z transformed correlation, SE = standard error of Fisher's z transformed correlation, p = p value of each slope. $R^2_{(2)}$ = percent of within study heterogeneity, $R^2_{(3)}$ = percent of between study heterogeneity, Likelihood Ratio Test = tests if the model that includes the moderator is an improvement over the baseline model. Individualism intercept = the main effect when individualism is 0. Individualism prop = the change in the national individualism intercept for every 10-point increase. Children = ≤ 11 years, Adolescents = ages 12-18 inclusive, Adults = ages 19 and above. Child sex intercept = effect when proportion of female children is 0. Female prop = change in the intercept for every one-unit of proportion increase with one-unit equivalent to 100% females. The following levels were removed from the model due to an insufficient number of studies (i.e., less than 5): Region: 'Africa' ($k = 1$) and 'Middle East' ($k = 3$); Child age: 'Children' ($k = 4$); Publication Type: 'Dissertation' ($k = 4$). The removal of Publication Type: 'Dissertation' resulted in the removal of the Publication Type variable from this model.

Table 2.

Meta-Regressions for the Pooled Link Between Parental Psychological Control and Child Ill-Being, and the Assessment of Six Possible Moderators of the Pooled Effect

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Baseline	171	493	0.26 [0.23, 0.28]	0.26	0.01	< 0.001	0.01	0.02			
Region	157	448					0.01	0.01	0.84	0.00	$\chi^2(3) = 1.01, p = 0.80$
Asia	26	55	0.25 [0.21, 0.29]	0.26	0.02	< 0.001					
Europe	40	102	0.23 [0.20, 0.27]	0.24	0.02	< 0.001					
Middle East	7	18	0.26 [0.18, 0.34]	0.26	0.04	< 0.001					
North America	87	273	0.25 [0.23, 0.27]	0.26	0.01	< 0.001					
Individualism	160	471					0.01	0.01	0.00	4.00	$\chi^2(1) = 1.29, p = 0.26$
Intercept			0.27 [0.22, 0.32]	0.28	0.03	< 0.001					
Individualism prop			0.00 [-0.01, 0.00]	0.00	0.00	0.25					

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Hierarchy	163	478					0.01	0.02	0.00	0.36	$\chi^2(1) = 0.39, p = 0.53$
Intercept			0.22 [0.10, 0.33]	0.23	0.06	< 0.001					
Hierarchy			0.02 [-0.03, 0.07]	0.02	0.03	0.53					
Child age	149	404					0.01	0.02	0.24	0.00	$\chi^2(2) = 0.12, p = 0.94$
Children	26	70	0.28 [0.22, 0.34]	0.29	0.03	< 0.001					
Adolescents	95	239	0.27 [0.23, 0.30]	0.27	0.02	< 0.001					
Adults	32	95	0.26 [0.21, 0.32]	0.27	0.03	< 0.001					
Child sex	160	438					0.01	0.03	4.45	0.00	$\chi^2(1) = 5.96, p = 0.015$
Intercept			0.22 [0.18, 0.26]	0.23	0.02	< 0.001					
Female prop.			0.07 [0.01, 0.12]	0.07	0.03	0.014					
Publication type	171	493					0.01	0.02	0.00	1.80	$\chi^2(1) = 1.90, p = 0.17$
Journal Article	142	380	0.26 [0.24, 0.29]	0.27	0.01	< 0.001					

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Dissertation	29	113	0.22 [0.16, 0.28]	0.22	0.03	< 0.001					

Note. Baseline = the meta-analytic model without any predictors. k = number of studies, n = number of effects. r = Pearson's correlation, z = Fisher's z transformed correlation, SE = standard error of Fisher's z transformed correlation, p = p value of each slope. $R^2_{(2)}$ = percent of within study heterogeneity, $R^2_{(3)}$ = percent of between study heterogeneity, Likelihood Ratio Test = tests if the model that includes the moderator is an improvement over the baseline model. Individualism intercept = the main effect when individualism is 0. Individualism prop = the change in the national individualism intercept for every 10-point increase. Children = ≤ 11 years, Adolescents = ages 12-18 inclusive, Adults = ages 19 and above. Child sex intercept = effect when proportion of female children is 0. Female prop = change in the intercept for every one-unit of proportion increase with one-unit equivalent to 100% females. The following levels were removed from the model: Region: 'Africa' ($k = 3$), 'Oceania' ($k = 4$), and 'South America' ($k = 4$).