Aspiration Orientations Across Time: Do Childhood Aspiration Orientations Predict Mid-Life Aspiration Orientations and Well-Being?

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Aspiration Orientations Across Time:

Do Childhood Aspiration Orientations Predict Mid-Life Aspiration Orientations and Well-Being?

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Statement of Authorship

This thesis contains no material that has been extracted in whole or in part from a thesis that I have submitted towards the award of any other degree or diploma in any other tertiary institution. No other person's work has been used without due acknowledgement in the main text of the thesis. All research procedures reported in the thesis received the approval of relevant Ethics/Safety Committees (where required)

Kelly Ferber

Dedication

May this work honour the profound influence parents have on shaping the lives of their children and serve as a reminder that their legacies endure. Thanks to my parents for the influence they have had on my journey.

In honour of Aaron's mother, Linda.

Live, love, laugh.

Acknowledgements

"A journey of a thousand miles begins with a single step"- Lao Tzu.

Reflecting on my PhD, I am humbled by the meaningful coincidences that led me to take the first step on this path and the countless small steps that ultimately culminated in the completion of my doctoral journey. There are several individuals who deserve sincere acknowledgment for inspiring me to take the pivotal first step, and for walking by my side through myriad little steps.

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Navigating the intricate path of a PhD has been an adventure filled with unexpected twists, turns, and occasional roadblocks. To my incredible support system - mum, dad, Aaron, Jemma, Matt, Caitie, Elijah, and Alexander - you have been the ultimate cheerleaders, keeping me calm, and reminding me of the life that exists beyond the PhD. To my fellow PhD friends, whether it was virtually raising a glass to milestones, or gathering for celebrations when possible, you've made this journey feel like I belong to a tight-knit community, no matter the physical distance.

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Abstract

By uncovering how far-reaching the impact of childhood aspiration orientations are on mid-life aspiration orientations and well-being, this thesis aims to bridge a gap in our understanding about how early aspirations shape well-being. Grounded in goal contents theory (Kasser & Ryan, 1993, 1996, 2001; Ryan & Deci, 2017), this thesis examined the stability of people's intrinsic and extrinsic aspirations over time, and the long-term implications of aspiration orientations on well-being. Previous research consistently supports the positive link between intrinsic aspirations (affiliation, personal growth, community giving, and physical health) and well-being (Bradshaw et al., 2022). While, extrinsic aspirations (wealth, image and fame) are unrelated to well-being, and positively associated with ill-being. Little research has explored how intrinsic and extrinsic aspiration orientations, within the same individuals, relate to their well-being later in life. Gaining, answers to these questions, aids in understanding how to support individuals to prioritise intrinsic goals, and optimise well-being. This research provides insights into the developmental trajectory and long-term stability of intrinsic and extrinsic aspiration orientations, by utilising a mixed-methods approach, including qualitative data from the National Child Development Study (NCDS) of the same people at different life stages.

People's natural language about their aspirations could provide a valuable means to understand their intrinsic and extrinsic aspirations, including those who may not be able to complete questionnaires, such as children. In Chapter 2, a coding system was developed to identify intrinsic and extrinsic aspirations in participants' naturally occurring language about their future. A thematic coding system derived from the themes of the Aspiration Index, demonstrated the greatest validity. The thematic coding system was then used to analyse the stability of participants' intrinsic and extrinsic aspirations orientation between the ages 11 and 50 (Chapter 3) and their influence on well-being at age 50 (Chapter 4). Evidence was found

for some stability of intrinsic aspirations over time. Individuals who were intrinsically oriented at 50 had the highest levels of well-being, compared to those with extrinsic aspirations, or no intrinsic or extrinsic aspirations. Benefits to well-being were also found for remaining or becoming more intrinsically oriented between the ages of 11 and 50.

Understanding how parents influence the development of their children's aspiration orientations would provide insight into how to promote intrinsic aspirations and well-being. A meta-analysis of the link between parent characteristics and intrinsic aspirations provided support for the notion that children's intrinsic aspirations are fostered by need supportive environments (Chapter 5).

This research contributes to the knowledge base on how people's intrinsic and extrinsic aspirations track over time, and offers practical guidance for promoting intrinsic aspirations and fostering well-being across the lifespan.

Introduction

People often ask children about their future aspirations with the age-old question "what do you want to be when you grow up?" The problem with such a question, is that it presupposes that the ultimate goal in life is the selection of career, and that the realisation of this goal is the sole purpose of growing up. The question falls short of adopting a holistic approach to how we can more broadly use goals to shape the course of our lives in meaningful and fulfilling ways. In my dissertation, I contend that we should care about what children aspire toward but emphasise the importance of fostering individuals' capacities to set goals that optimise their well-being. By broadening the scope and awareness of how goals can serve individuals, we can create a framework that better reflects what parents, educators, and communities truly want for their children: a life of well-being.

My arguments will primarily be grounded in *self-determination theory* (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017). SDT claims that the satisfaction of three basic psychological needs—autonomy, relatedness, and competence—is crucial for optimising well-being. When individuals feel a sense of volition and choice (autonomy), experience meaningful connections with others (relatedness), and feel capable of mastering challenges (competence), they are more likely to achieve a state of wellness and flourishing.

I specifically draw on *goal contents theory* (Kasser & Ryan, 1993, 1996, 2001; Ryan & Deci, 2017), one of the six mini-theories within SDT, because it offers a framework for understanding how the content of our goals influences our well-being. The central premise of goal contents theory is that "not all goals are equal" (Ryan & Deci, 2017, p. 272), because they vary in the extent to which they meet our basic psychological needs. According to goal contents theory, goals can be classified into two types: intrinsic aspirations and extrinsic aspirations. Intrinsic aspirations directly satisfy our basic psychological needs, and include goals such as affiliation, personal growth, community involvement, and physical health.

Intrinsic aspirations have consistently been found to be linked with greater well-being, such as vitality, life satisfaction, meaning in life, and mindfulness (Kasser & Ryan, 1993, 1996, 2001; Ryan et al., 1999; Sebire et al., 2009; Yamaguchi & Halberstadt, 2012). Conversely, extrinsic aspirations, such as wealth, image, and fame, rely on external contingencies and at best indirectly satisfy basic psychological needs. When extrinsic aspirations are prioritised at the cost of intrinsic aspirations, they have even been found to be linked with ill-being.

I adopt the term *aspiration orientation* throughout the dissertation to signify the tendency to aspire more predominantly toward one of the two aspiration types—an intrinsic aspiration orientation or extrinsic aspiration orientation. An intrinsic aspiration orientation suggests that intrinsic aspirations are prioritised in a person's broader pattern of goal setting, relative to extrinsic aspirations. Whereas, an extrinsic aspiration orientation suggests that extrinsic aspirations are prioritised relative to intrinsic aspirations. As Kasser (2002) describes, if extrinsic aspirations were chocolate cake, it might not hurt to consume chocolate cake in moderation, if our diets were still predominantly made up of nutrient rich food (intrinsic aspirations). However, if we decided to eat chocolate cake all the time, we would be lacking the nutrient rich food essential for healthy functioning. As such, goal contents theory is mostly concerned with how we can foster intrinsic aspirations, as well as minimise extrinsic aspirations.

Decades of research empirically supports these two aspiration types and their differential links to well-being (Bradshaw et al., 2022). However, there is less research on the *development* of aspiration orientations in childhood, as well as the *stability* of aspiration orientations over time and how they relate to well-being. For instance, we do not know whether there is a link between the aspirations we orient toward as children and the aspirations that we go on to have later in life, nor do we know the implications of such a link for well-being. Some research has explored intrinsic and extrinsic aspirations over smaller

periods of time but none have explored the stability over a very long period of time or from the developmental stage of childhood (Kasser et al., 2014; Morgan & Robinson, 2013). Typically, people's aspirations are assessed using a self-report questionnaire called Aspiration Index (Kasser & Ryan, 1993, 1996, 2001). Therefore, one of the barriers to conducting aspiration research across the lifespan is that young children may not be equipped to complete a survey. Addressing this challenge is important because more research is required to understand how aspiration orientations develop and how individual differences and parent characteristics contribute to that development. Stability in aspirations from childhood into mid-life would suggest that their early development is fundamental in shaping aspiration orientations later in life. If intrinsic and extrinsic goals emerge during childhood, then we should arguably broaden our perspective on when the goal setting process begins, and consider the ways our formative developmental years shape our capacity to orient toward aspiration types.

In Chapter 2, I evaluate the validity of three coding systems aimed at identifying intrinsic and extrinsic aspirations in naturally occurring language—including a computer rater text search system, a human rater count system, and a human rater thematic system. In doing so, I identified the human rater thematic system as the most valid system. It offers utility in interpreting the intrinsic and extrinsic aspirations of children and those who may not be able to complete a questionnaire.

In Chapters 3 and 4 I apply the thematic coding system to qualitative data from a longitudinal dataset (National Child Development Study NCDS) to analyse the stability of aspirations over time (Chapter 3) and how different patterns of aspiring over time relate to well-being (Chapter 4). I used a mixed-methods approach, involving coding the essays of approximately 4000 individuals about their goals at age 11, and again at age 50. As

hypothesised, I found evidence for some stability of intrinsic aspirations over time, and support for the link between intrinsic aspiring and well-being later in life.

In Chapter 5 of this thesis, I synthesised the literature examining the link between parent characteristics and their children's intrinsic and extrinsic aspirations. The findings from the systematic review and meta-analysis showed that children's intrinsic aspirations were higher when parents provided a need supportive environment (characterised by support for autonomy, relatedness, and competence) and when they endorsed intrinsic aspirations themselves. Children's extrinsic aspirations were higher when parents exhibited extrinsic aspirations themselves, promoted the pursuit of extrinsic aspirations, and provided environments characterised by need frustration.

These studies advance our understanding of the development and trajectory of intrinsic and extrinsic aspirations over time, and their links to well-being later in life. Intrinsic goal development and its impact on well-being are evident from as young as age 11. Fostering intrinsic aspirations from early development could, therefore, be a powerful vehicle for promoting a life of greater wellness and meaning. Need supportive strategies and approaches that optimise the development of intrinsic aspirations from early development in proximal environments such as home, school, and community appear fundamental in promoting well-being.

Chapter 1: A Self-Determination Theory Perspective on Aspirations and Well-Being

In this opening chapter, I aim to provide a theoretical explanation for why the development and pursuit of intrinsic aspirations are pivotal in shaping a life course that is directed towards well-being. To achieve this aim, I delve into the historical background of SDT, the function of goals, and link the pursuit of intrinsic aspirations to the concept of eudaimonic well-being. I also examine SDT's specification of the environmental conditions that are thought to optimise the development of intrinsic aspirations.

What Purpose do Goals Serve?

A goal, or aspiration, is a desired future outcome or objective that an individual wishes to achieve. Goals can be related to various domains of life including personal development, career, health, fitness, education, and relationships. SDT offers a motivational perspective that sheds light on why humans are driven to value and pursue certain types of goals. A key tenet of SDT is that humans can be moved into action by different types of motivators (Ryan & Deci, 2000, 2017). People may set goals for different reasons, such as obtaining a reward, avoiding negative consequences, pleasing others, embodying personal values, or deriving pleasure from the activity. SDT posits that people's motives array along a continuum from externally controlled regulations (e.g., a reward or punishment) to more relatively autonomous or internally controlled regulations (e.g., autonomous forms of engagement; Ryan & Deci, 2000, 2017). In SDT the most autonomous form of motivation is *intrinsic motivation*. Intrinsic motivation is defined as "spontaneous activity that is sustained by the satisfactions inherent in the activity itself" (Ryan & Deci, 2017, p. 99). As such, goals set from a place of intrinsic motivation, hold inherent worthiness, and also serve developmental and evolutionary purposes. SDT recognizes and differentiates between the content of goals and the motivational regulatory processes driving the pursuit of goals. While the 'what' (content of goals) and 'why' (motivational regulatory process) share

commonalities, the content of one's goals has been found to predict outcomes of well-being, beyond what is explained by the motivation behind the goal pursuit (Deci & Ryan, 2000). Psychological needs play a key role in the type and motivational regulatory processes of goals, which can be understood in the context of the organismic perspective of human development.

SDT adopts the organismic perspective that humans have the innate capacity for development facilitated by self-organisation and integration (Ryan, 1993). SDT, therefore, views development not just as the capacity for growth and change, but movement in the direction of greater organisation. The function of self-organisation stems from an evolutionary perspective, in which organisms who did self-organise through exploring their surroundings, manipulating novel objects, and assimilating information were more able to adapt to changes in their environment (Waller, 1998). SDT recognises humans' innate tendency toward growth and development, which is driven by the satisfaction of basic psychological needs for autonomy, competence, and relatedness. These needs can be considered proximal motivators that promote behaviours beneficial to human evolution, such as curiosity, skill-building, and social belonging. Therefore, self-organisation can be seen as the process of aligning behaviour and experiences to optimise the satisfaction of these three basic psychological needs. As such, the types of goals that humans are more innately driven to pursue are those that satisfy their basic psychological needs because there exists an internal drive to interact with one's environment that will facilitate greater *integrative functioning* (Ryan & Deci, 2017). SDT considers basic psychological needs to be universally relevant to humankind, and essential for organismic development. In the following section, I will provide a detailed explanation of each of these three needs.

Autonomy refers to the extent that individuals are able to regulate their own behaviour and make choices based on autonomous motivations, rather than being controlled

by external forces (Ryan & Deci, 2017). It involves a sense of personal agency and volition, where individuals feel that their actions are fully self-endorsed (Niemiec & Ryan, 2009). In contrast, heteronomy refers to the experience of being compelled or pressured to act in certain ways by external pressures (Ryan & Deci, 2017). When individuals have a high degree of autonomy, they are able to tap into their full range of resources and capabilities. It is important to distinguish autonomy from independence, as these concepts are not interchangeable. While independence refers to being separate or self-sufficient, autonomy is concerned with the sense of control over one's own actions and behaviour.

Relatedness concerns the inherent need to feel a sense of belonging and connection with others. The need for relatedness is rooted in our evolutionary history as social beings which demonstrates the functional benefit for behaving in ways that build social bonds and group membership (Baumeister & Leary, 1995). Relatedness is characterised by reciprocity, mutual respect, emotional support, and a sense of unconditional acceptance for who one is at their core.

Competence refers to an individual's innate needto master their environment and attain a sense of efficacy. Competence reflects an individual's desire to learn, grow, and master new skills. According to White (1959) individuals have a natural inclination to feel a sense of effectance through exerting influence on their environment.

Taken together, the relevance of understanding *why* individuals set goals lies in recognizing that people are inherently motivated to engage in actions driven by internal regulation and integrative purposes, aimed at satisfying their basic psychological needs. SDT recognises that *what* people aspire toward, plays a role in determining the extent to which their basic psychological needs will be satisfied (Kasser & Ryan, 1993, 1996, 2001). As previously touched upon, goal contents theory terms the type of goals that are especially useful in achieving direct basic psychological need satisfaction, intrinsic aspirations (Ryan &

Deci, 2017). Intrinsic aspirations reflect humans' innate tendencies toward growth and integration. Intrinsic aspirations (i.e., personal growth, affiliation, community involvement, physical health) are considered first order values or motives because the aspirations directly satisfy psychological needs (Ryan et al., 2008). For example, succeeding in the aspiration for close and meaningful relationships, by seeing friends regularly would directly satisfy the psychological need of relatedness. In contrast, extrinsic aspirations (i.e., wealth, fame, and image) are lower order values or motives because they are indirectly linked to psychological needs. For example, someone may aspire to be famous because they want to be known by others in the community, which may be indirectly related to the psychological need of relatedness. The focus on fame may not guarantee relatedness satisfaction, because fame does not hinge on developing meaningful and reciprocal connections. Intrinsic aspirations have been found to predict the satisfaction of basic psychological needs and autonomous forms of motivation, and numerous markers of well-being (Bradshaw et al., 2022; Sibley & Bergman, 2018). Whereas, extrinsic aspirations are associated with controlled forms of motivation, basic psychological need frustration and numerous indicators of ill-being (Ryan & Deci, 2017). Next, I provide theoretical perspectives on goal engagement across time.

A Lifespan Approach to Goals

SDT takes a lifespan approach to motivation, describing that, from birth, individuals have propensities to expand and elaborate themselves in the direction of integrated functioning (Ryan & Deci, 2017). Lifespan developmental theory suggests that adaptive development can be understood by examining variations in goal engagement across one's entire life (Baltes, 1987; Heckhausen, 1999; Heckhausen, et al., 2010; Wrosch et al., 2003). Lifespan developmental theory posits development is impacted by the contexts that surround an individual and it is permeable and dynamic, with natural gains and losses across the lifespan. As individuals transition between developmental stages and progress through the

life course, the need for adaptability and active goal setting is integral in optimising their functioning and well-being. According to SDT, individuals begin their lives with a natural tendency towards *intrinsic motivation*. The developmental advantages of intrinsically seeking out attachment to others, integrating social regulation, in early developmental periods are self-evident. However, to maintain wellness over the lifespan people must continue to seek out opportunities to fulfil their basic psychological needs.

While humans are inherently driven to meet basic psychological needs, people still vary in their selection of and orientation towards goals that actually serve these needs. The pursuit of extrinsic goals may contribute to indirect satisfaction of psychological needs but may not guarantee enduring well-being across life. Take for example, an adolescent who has a goal to be a famous Australian Football League (AFL) player because his dad strongly suggested this aspiration. He may invest considerable time training and playing football games and forfeit opportunities for other personal growth activities that would, likely, more directly satisfy his basic psychological needs. The achievement of this goal may lead to fame and the indirect satisfaction of psychological needs during points of his lifespan. However, fame may not be a consistent source of psychological need fulfilment across the lifespan. Even if an individual is deemed famous, being 'known' by others does not necessarily ensure that one will be liked or feel connected to others. Conversely, an adolescent who decides to play football because they experience inherent joy and connectedness when engaging in the activity, will more likely satisfy psychological needs because the reasons for playing football are closely tied to autonomy, relatedness and competence. An individual who prioritises close relationships, personal growth, physical health, and community involvement across all developmental stages over the lifespan, is likely to be aligning themself with opportunities across the lifespan that directly and consistently fulfil basic psychological needs.

Certain stages in the lifespan have received more attention than others in regards to aspirational pursuits. Aspiring during adolescence has received particular attention because adolescence is a developmental period in which the trajectory of adult values are being forged (Davids et al., 2017; Deci & Ryan, 2008; Kasser et al., 1995; Kasser & Ryan, 2001; Lekes et al., 2011; Niemiec et al., 2009; Nishimura et al., 2021; Roman et al., 2015; Schmuck et al., 2000; Schwartz, 2012; Williams et al., 2000). Adolescents who value extrinsic goals over intrinsic goals have been found to exhibit lower psychological well-being and engage in more risky health behaviours (Deci & Ryan, 2008; Schmuck et al., 2000; Williams et al., 2000). Conversely, adolescents who prioritise intrinsic aspirations have been found to experience greater psychological well-being, self-esteem, self-actualisation and vitality (Kasser & Ryan 2001; Ryan et al., 1999). An adolescent's aspiration orientation may also have an ongoing impact on their future well-being. For example, Niemiec et al. (2009) found that adolescents with intrinsic aspiration orientations reported greater well-being one year post-college, regardless of the pathway they decided to take.

The relevance of aspiration orientation is also evident later in the lifespan. Van Hiel and Vansteenkiste (2009) found differential outcomes for older adults related to the attainment of intrinsic versus extrinsic aspirations. The attainment of intrinsic aspirations was related to greater subjective well-being, lower ill-being, and greater acceptance of death. Whereas, the attainment of extrinsic aspirations was unrelated to psychological health but was related to despair and less acceptance of death.

While longitudinal studies have been used to capture the influence of aspiration orientation on a range of life outcomes (e.g., well-being, ill-being, life satisfaction, vitality, self actualisation, career satisfaction), little research has explored the stability of aspiration orientations across time. Kasser et al. (2013) offered some insight into the stability of financial aspiration orientation over time, finding that the importance individuals placed on

financial success between the ages of 18 to 30 was moderately stable. However, less is known about the stability of aspiration orientation from childhood into mid-life and whether an intrinsic or extrinsic aspiration orientation develops statically or dynamically across the life-span. Thus, longitudinal approaches are required to uncover the extent to which individuals retain the same aspirational orientation across the lifespan. Next, I describe how the tendency to set intrinsic aspirations relates to a life aligned with greater well-being.

Toward Eudaimonic Well-Being

In aiming to equip children with the capacity to select goals that will lead to greater well-being, it is important to first define the most worthwhile forms of well-being. Well-being has a variety of definitions, some definitions focus on moment to moment experiences such as positive mood (Kahneman et al., 2006), others centre on cognitive evaluations such as life satisfaction (Diener, 2000), and others conceive of well-being as multi-faceted (Ryan et al., 2018). Deliberation over the definition reflects differences in people's understanding of what it means to live well. Hedonic well-being refers to the pursuit of positive emotions, such as happiness. According to SDT, hedonic well-being or the presence of pleasure and the absence of pain is an insufficient definition of well-being because the simple presence of self-reported happiness, or absence of sadness, does not necessarily encompass psychological well-being more broadly (Ryan & Deci, 2001).

SDT embraces a eudaimonic view of well-being, which emphasises the importance of good relationships, self-realisation, vitality, and adaptive psychological functioning, resulting basic psychological need satisfaction (Niemiec & Ryan, 2013; Ryan, Huta & Deci, 2008; Ryan, Curren & Deci, 2013; Ryan & Deci, 2001). Eudaimonic well-being stems from Aristotle's philosophy, which focuses on the processes in living well and the degree to which individuals reflectively and volitionally strive for what is of intrinsic human worth (Ryan & Deci, 2001). Ryan and Martela (2016) outline that in Aristotelian philosophy, eudaimonia is

not considered a psychological state or type of happiness, rather it is seen as a fulfilling and virtuous way of living, where the components of such a life promote happiness and flourishing. Eudaimonic well-being is also characterised by a sense of coherence and integration of one's experiences, values, and goals.

Eudaimonic well-being is achieved through opportunities for autonomy, competence, and relatedness, which are essential for a flourishing life (Deci & Ryan, 2000). Given that intrinsic aspirations are defined by their capacity to directly satisfy basic psychological needs of autonomy, competence, and relatedness, they can be seen as tools to support a life of eudaimonic living. The pursuit of intrinsic aspirations can also foster eudaimonic well-being because they allow individuals to engage in activities that are personally meaningful and aligned with their values and interests. This, in turn, can lead to a deeper sense of fulfilment, purpose and life satisfaction (Deci & Ryan, 2000).

Research consistently supports the links between intrinsic aspirations and a range of dimensions of eudaimonic well-being, such as vitality, mindfulness, and self-actualisation (Bradshaw et al., 2022). Vitality represents an energy characterised by vigour and aliveness, which can be channelled into intentional actions, in turn, optimising emotional and functional wellness (Ryan & Martela, 2016). Mindfulness involves being aware of the present moment, and bringing reflection and intention into life challenges and choices (Weinstein, Brown, & Ryan, 2009). Mindfulness has been linked with autonomous self-regulation and higher well-being (Brown et al., 2009). Individuals with a greater focus on intrinsic aspirations are more likely to be mindful and act in ways that align with those aspirations (Brown & Ryan, 2004; Brown & Kasser, 2005). Self-actualization refers to the process of reaching one's full potential. SDT suggests that intrinsic goals also help people to move into directions of greater actualization. For example, intrinsic aspirations increase experiences in which one is

supported to be volitional in their actions and face optimal challenges, that allow for self-actualising growth.

The Seeds of Intrinsic and Extrinsic Aspirations

We often think of life goals as things that emerge as we approach adulthood, but in reality the seeds of our goals are planted in childhood. Environments surrounding individuals from childhood play a part in shaping and moulding their values and aspirations (Ahn & Reeve, 2020; Chew & Wang, 2010; Lekes et al., 2010; Nishimura et al., 2021). The development of aspirations is thought to be affected by a breadth of environmental influences, from the cultural, ecological, and societal views about what is deemed a worthy pursuit, to the interpersonal and relational influences in one's life. Cultural and societal notions of what constitutes *success* are often closely embedded with well-being and infiltrate their environments from a young age. Ecological factors, such as where people live and their access to resources and opportunities, may also impact what one aspires toward.

When it comes to children, few environmental factors are more salient than parents. SDT offers a particularly helpful perspective when understanding the ways in which parents shape the development of children's aspirations. That is, parents differ in the values and aspirations they hold themselves, as well as the environment they provide for their children. Children are fundamentally reliant upon parents to meet their psychological needs. And, when parents support needs effectively, children are thought to be more likely to develop intrinsic aspirations (Ryan & Deci, 2017). The satisfaction of psychological needs is seen as crucial, not only at childhood and the beginning stages of life but throughout the whole lifespan. Need satisfactions are thought to be fundamental to human experiences of meaning, fulfilment, and eudaimonia (Ryan & Deci, 2001). By contrast, children are thought to be more likely to develop extrinsic aspirations when their parents behave in basic psychological need frustrating ways, or when they highly value extrinsic aspirations themselves.

In much the same way that humans rely on the features of different environments to meet their needs for key nutrients such as water, air, and sun, so too do environmental factors affect individuals' abilities to meet basic psychological needs (Ryan & Deci, 2017). While a child is innately driven to seek basic psychological need satisfaction, the ways in which they obtain psychological need satisfaction is largely impacted by their environmental conditions (Grolnick & Pomerantz, 2009; Grolnick & Ryan, 1989). A parent is usually a particularly prominent feature of the environment that may provide or restrict access to children's psychological need satisfaction. As such, a parent has the potential to provide conditions that will either support psychological need satisfaction and flourishing or frustrate psychological needs. When a parent provides need satisfaction, their children are more likely to develop a sense of unconditional worthiness, experience inherent joy, optimal challenge and set goals which directly satisfy their psychological needs in the future (Şimşek & Demir, 2013). When a child's psychological needs are frustrated, they are more likely to develop a sense of self that is contingent on external reinforcement, adopt goals that please others, and set goals that may at best indirectly satisfy their psychological needs (Şimşek & Demir, 2013). Early and ongoing psychological need satisfaction is therefore crucial in laying foundations that support children to engage in pursuits that provide direct satisfaction of their needs (i.e., intrinsic aspirations), while other environmental conditions may foster a trajectory of seeking indirect need satisfaction (i.e., extrinsic aspirations). Thus, the relevance of parental factors and psychological needs is twofold, in that early and ongoing experiences of psychological need satisfaction have the potential to support flourishing for children but also influence the trajectories of children's own future need satisfaction strategies. Next, I take a closer look at what types of factors constitute a need supportive environment and a need frustrating environment.

Need Supportive Environments

SDT suggests that there are specific environmental nutrients that parents can facilitate to promote a healthy parent-child system and greater fulfilment of the basic psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2017; Tessier et al., 2023). Such nutrients include autonomy support, structure, and involvement and will each be outlined with specific examples of parent strategies below. To highlight how these may be exhibited in the parent-child interaction, I have provided some example phrases that encompass each of these concepts in Table 1.

The aim of autonomy support is to promote an individual's sense of volition and self-endorsed, congruent actions. Parental autonomy support includes behaviours such as taking the child's perspective, offering meaningful choices, encouraging and supporting their initiative and voice, and providing meaningful rationales for requested behaviours (Ryan & Deci, 2017). Autonomy supportive strategies have been linked with children experiencing greater agentic engagement, such as engaging in tasks because they are interested in them (Reeve & Shin, 2020). Indeed, autonomy support has been linked with a range of favourable child outcomes, such as intrinsic motivation, perceived competence, and perceived control (Grolnick et al., 1997, 2007; Soenens & Vansteenkiste, 2005). However, when it comes to children, free choice can not be unlimited and needs to be provided with appropriate boundaries and structure.

Structure involves providing conditions that optimise clarity and consistency around expectations, boundaries, and limits (Grolnick et al., 1997). Parenting strategies that offer structure include providing informational feedback, offering competence support in the form of functionally significant feedback, focusing on mastery rather than performance goals, and age appropriate limit setting (Grolnick & Pomerantz, 2009; Reeve, 2002). Offering environmental experience aimed at supporting needs requires a parent to understand how to

scaffold learning at a level that will promote mastery and effectiveness. As an example, you would not expect that a child with no swimming experience would be able to immediately swim in the deep end of a pool, instead you would grade—or scaffold—their learning experience by breaking it into smaller steps. Optimal structure is very important in developing perceived competence, as too much structure can also undermine autonomy. Conversely, low structured environments can feel unpredictable and can contribute to an individual feeling as though they lack control and effectiveness (Grolnick & Ryan, 1989; Soenens & Vansteenkiste, 2010). A parent needs to be engaged with their child in order to appropriately provide non-controlling structure.

Involvement is the extent that parents demonstrate interest, knowledge, and participation in the child's life (Grolnick et al., 1997). Involvement can be seen in acts of showing interest, taking time, participating in a child's day to day activities, and entering into the child's experience of the world on an emotional and behavioural level with warmth and care (Grolnick & Slowiaczek, 1994). Showing interest could involve the use of descriptive statements or statements of curiosity. Taking time could involve scheduling time to be present during a valued activity that a child is involved in and joining in, while they take the lead. Another way of showing interest could be to acknowledge when a child is participating in a valued activity. Involvement aids a child's experience of feeling attuned, connected, understood, and secure and satisfies the need for relatedness.

Table 1

Characteristics and Examples of a Need Supportive Environment

Need Supportive Environment	Strategies	Examples
Autonomy	Taking a child's perspective	'*I understand you were hoping to stay longer at your friends house because you were having a really good time and you are feeling disappointed that the time came to pick you up*'
	Offering meaningful choices	'*Which activity would you like to do in your free choice time today?*'
		'*You said you have spelling words and some maths questions to do for homework, which ones should we work on first?'*
	Providing meaningful rationale	'*Before we eat dessert, it's important to eat dinner so we can provide our bodies with the types of nutrients it needs to feel good and grow'.*
	Encouraging and supporting initiative and growth	'*I've noticed that you enjoy spending a lot of your time playing chess, what do you find the most interesting thing is about chess?*
Structure	Descriptive feedback	'*It's getting windy now, you will need to keep the kite closer, so it doesn't fly away*'
	Scaffold learning at a level that will promote mastery and effectiveness	'*I can see you can kick the soccer ball really far, let's practise kicking it into the goal next week*'
Involvement	Showing interest	*'You've coloured a big rainbow, tell me about it'*
	Quality Time	*'Let's spend 15 minutes together, doing your favourite activity'*
	Acknowledging valued activities	*'I can see that soccer is really important to you'*

Together, autonomy support, structure, and involvement contribute to a need supportive environment. Such environments foster personal growth, meaningful relationships, and volitional engagement in activities of interest. Under need supportive conditions, children develop foundations upon which they are encouraged to explore and interact with their surroundings with their innate curiosity. This, in turn, makes it possible for individuals to act through their personal interests, values, and goals and facilitate understanding of their own inner compass (Assor et al., 2020). It is via these mechanisms that need satisfying environments are conducive to the development of intrinsic aspirations (Ryan & Deci, 2017).

Need Thwarting Environments

Need thwarting environments are characterised by behaviours in which a parent restricts or denies a child's autonomy, has rigid or chaotic structure and provides conditional regard (Ryan & Deci, 2017). Need thwarting parenting factors may include psychological control, dominance, demands, rejection, stigmatisation, or offering love and acceptance on a conditional basis. Need thwarting conditions tend to lead to need frustrations, and thus maladaptive outcomes. Though, specific needs can be thwarted in different ways.

Autonomy frustration may be experienced as a result of explicit demands with little reasoning or rationale, a lack of choice, lack of taking the child's perspective, and ignoring or rejecting the child's inherent interests. These controlling techniques are less likely to lead to internalisation and even if children do behave in the desired way, they do so as a result of pressure and inner conflict (Grolnick et al., 1997). Internalisation is a process in which an individual transforms values and beliefs from their external environment into their own (Ryan & Deci, 2017). The more controlling the external environment is, the less likely an individual is to endorse a value or belief from their own doing. Instead, they align themselves with values, beliefs, and behaviours due to the consequence, reward, guilt, or pressure attached to

it. Compliance with controlling parenting techniques is usually motivated by a fear of punishment or disapproval by their parent and has consequences for a child's sense of volition and autonomy.

Psychologically controlling parenting or chaotic structure may especially frustrate the need for competence. Psychological controlling parenting often involves the enforcement of rules, expectations, and consequences with little flexibility or consideration of the child's perspective or feelings (Grolnick et al., 2014). Psychologically control can compromise children's experiences of optimal challenge. For example, a parent may set an expectation beyond the child's abilities. In which case, the child's experience of mastery and competence is less likely and they will lack experiences that connect their actions with outcomes. Optimal challenge fosters competence because a parent adapts the environment, challenge, and support surrounding a child in a way that matches the child's current ability and behaviour. Conversely, low structure or chaos may not generate the conditions to support optimal challenge, as the child lacks access to environments that facilitate their innate interest or support to progressively develop the skills required. A recent study by Tessier and colleagues (2023) suggests that controlling parenting is linked with higher extrinsic values in adolescents, while chaotic parenting may influence the transmission of extrinsic values between parent and adolescent. Tessier et al. (2023) investigated how three components of detrimental parenting (rejecting, chaotic, and controlling parenting) related to adolescents' intrinsic and extrinsic values. Controlling parenting was the only component found to be directly related to adolescents' extrinsic values. Chaotic parenting moderated the association between parents' and adolescents' extrinsic values, in which the link was stronger when chaos was low.

Factors that can impact a sense of relatedness include conditional regard and the withdrawal of love, attention and acceptance when a desired behaviour has not occurred. For

instance, a parent might stop talking to their child if they fail a test, or not demonstrate any warmth after they lose a race. Conditional regard forces a child to decide between psychological needs of autonomy and relatedness because they have to choose between complying to maintain relatedness with their parent or a loss of relatedness to act in line with a sense of volition (Ryan & Deci, 2017).

Need frustration has been related to a range of adverse outcomes for children, including lower self-esteem, greater anti-social behaviour, reduced academic achievement and reductions in well-being (Barber et al., 2005; Chirkov & Ryan, 2001; Marbell et al., 2013; Soenens et al., 2012). Need frustration compromises the integration of healthy values, and may lead to an over-reliance on external indicators of value and merit. Thus, the link between need thwarting and the development of intrinsic and extrinsic aspirations is evident. If children are motivated by rewards, punishment, or what others think of them, they are more likely to engage with a range of aspirations that appease others or hold financial reward but may not yield inherent satisfaction. As Ryan and Deci (2017) describe, need thwarting parenting factors may foster pathways by which children come to rely on extrinsic aspirations for a sense of worth and acceptance because children may be more likely to take on identities that conform to these controlling environments, rather than satisfying their basic psychological needs in a way that is more in line with their authentic selves. Example phrases that encompass each of these concepts in a need thwarting environment can be found in Table 2.

Table 2

Characteristics and Examples of a Need Thwarting Environment

Need Thwarting Environment	Strategies	Examples
Autonomy frustration	Does not take the child's perspective	*'Stop crying, you had all day to spend play with your friend'*
	Lack of choice	'*Do your spelling homework now*' '*that's the way it is*'
	Lacks meaningful rationale	'*Because I say so*'
	Ignores/rejects child's inherent interests	'*Stop wasting all your time playing chess'*
Structure too strict or chaotic	Feedback is not descriptive or constructive	'*You're doing an awful job at flying a kite'*
	Rigid standards and rules	'*We are not going home until you can kick ten perfect goals*'
Coldness or conditional regard	Personalising setbacks	*'You are a failure'*
	Only showing interest and praise when activity valued by the parent	*'Why do you always stuff this up?'*
		'That's my boy you are going to be the next AFL star'
	Providing quality time under conditions	*'I'll look at your work when you can get an A+'*

Values Transmission

Given that many theorists have highlighted the central role of observational learning and the human tendency to internalise surrounding values (Grusec, 1994; Kytle & Bandura, 1978), children's aspiration orientations may be linked to parents' own aspirations. A link between parents' and children's aspirations would suggest that what is valued by the parent, also becomes valued by the child. Goals may be shared in the parent-child dyad because the goal has been explicitly valued or implicitly demonstrated. A parent might explicitly talk

about the importance of their own wealth, image, or fame. Alternatively, they might model their goals in how they invest their time and energy. A parent, for example, may invest a substantial amount of time in activities that are likely to accumulate wealth, or show large amounts of joy and excitement when they acquire desired possessions.

The transmission of extrinsic and materialistic values is an area that has received particular attention in the literature. Some studies have explored the extent to which appearance- and popularity-related values are transferred from parent to child. Henderson-King and Brooks (2009) found that fathers who valued appearances, had daughters who were more accepting of cosmetic surgery for social reasons and had a greater desire for cosmetic procedures. In addition, Moulton et al. (2015) found that parents who identified popularity as the most important child quality were more likely to have children with extrinsic career aspirations.

Conversely, a parent could also model intrinsic aspirations. Perhaps a parent models personal growth by describing and engaging with activities they inherently enjoy. They may model affiliation, by actively participating in meaningful friendships. They may model the importance of physical well-being through exercise and nutrition and they might show acts of community giving, by engaging in community activities aimed at benefiting others.

A recent study offers support for parent-adolescent value transmission of both intrinsic and extrinsic values, however, no support was found for cross paths, as parent intrinsic aspirations were unrelated to adolescent extrinsic aspirations, as were parent extrinsic aspirations and adolescent intrinsic aspirations (Tessier et al., 2023).

Social and Cultural Influences

Social systems theory identifies that individuals are nested within layers of influence, from the proximal sphere of family to the pervasive norms and ideals found within society and across cultures (Bronfenbrenner, 1979). Hence, a child's aspirations are, in part,

influenced by the cultures of their parents and the society in which both parent and child live. Cultures may vary in which life pursuits they deem as valuable and the best pathways to 'happiness'. This highlights the need to understand what constitutes notions of happiness or success within cultural settings. Wuyts et al. (2015) explored the difference between Chinese and Belgian parents of adolescents and their beliefs about success. Chinese parents had more specific notions of what a successful pathway would entail for their child and heightened their focus on their child's school achievement. Schmuck et al. (2000) suggested that some goals could have different meanings in different cultures, such as a goal of conformity perhaps representing community integration in Eastern cultures. In Western cultures, however, a goal of conformity could represent a loss of autonomy. Yet, Schmuck et al. (2000) also highlighted that psychological need satisfaction is universal and as such, some goals serve as a clear vehicle to need satisfaction cross-culturally.

The notion of looking toward external goods and status, as a measure of success and happiness, is a social phenomena seen in many cultures. The progression of capitalism involving technology, media, advertising and the competitive marketing surrounding product, has fuelled societal ideals and messages regarding the need for fame, image and wealth. Mechanisms such as social comparison and objectification have also contributed to individuals having fixed ideas about what they need to achieve in their external environment in order to achieve value, worth and success. Such cultural ideals are evident in concepts such as 'The American Dream', in which acquisition and wealth represents power and success. Strongly valuing extrinsic aspirations relative to intrinsic aspirations has been consistently linked with reduced well-being and increased ill-being across cultures (Schmuck et al. 2000; Ryan et al. 1999). Ryan et al. (1999) demonstrated that individuals from both America and Russia who highly valued extrinsic aspirations relative to intrinsic aspirations, experienced lower well-being.

Economic and situational stressors are also thought to impact the aspirations children develop. *Family stress theory* (Hill, 1949; Wu & Xu, 2020) suggests that parents are more likely to adopt psychologically controlling parent styles when under stress; particularly financial strain. Economic strain and stressful life events have also been found to be associated with more psychologically controlling parenting (Conger et al., 1995; Dodge et al., 1994; Grolnick et al., 1996). SDT considers controlling parent styles to be more conducive to the development of extrinsic aspirations because psychologically controlling parenting styles may thwart psychological need satisfaction, and people often compensate for need frustrations with extrinsic pursuits (Kasser et al., 1996). In addition, individuals exposed to psychologically controlling parenting may come to adopt the expectations and wishes of their parents in order to achieve relatedness. In pursuit of relatedness, they may forfeit their own intrinsic pursuits and manifest aspirations external to themself. Some suggest that those who experience socioeconomic disadvantage may also be more focused on the acquisition of money and in turn highly value financial success (Kasser et al., 1995). Thus there are two reasons to believe that socioeconomic status may be related to extrinsic aspirations. Both indirectly via parenting styles and directly by those in the proximal environment highly valuing the need for extrinsic aspirations. Family structure has also been explored in relation to a child's aspirations. Some believe that, compared to two-parent families, single-parent families may experience more socioeconomic disadvantage and be more socially isolated, and their children may experience lower emotional and parental support due to the parent being required to work longer hours, and as a result children may go on to develop extrinsic aspirations (Jackson et al., 2000). Less access to resources and parent availability, may compromise psychological need satisfaction and conditions to foster optimal challenge and one's inner compass.

Chapter Summary

This chapter outlined the role that goals serve in living a life of well-being, from the perspective of SDT. I presented evolutionary and organismic paradigms to explain why humans are innately driven to pursue some goals more than others, and how goal types influence well-being. The types of goals that humans are more innately driven to pursue are those that satisfy their basic psychological needs because there exists an internal need to interact with one's environment that will facilitate greater integrative functioning. Further, I expanded on how goal contents theory distinguishes two goal types: intrinsic aspirations and extrinsic aspirations, based on their capacity to directly satisfy basic psychological needs. I presented reasons why integrative functioning is relevant across the whole lifespan, and the role that consistent intrinsic aspiring could play in fostering well-being over time.

I highlighted that SDT adopts the eudaimonic concept of well-being which entails that certain ways of living are more conducive to a good life. Aristotle did not view happiness as the primary goal of living, as this would be a hedonic perspective, which focuses on subjective experiences such as happiness. Instead, subjective experiences of happiness are seen as by-products of living well. When individuals adopt ways of living that go beyond the pursuit of happiness, and seek virtues of meaning, connection, and depth, they are more likely to experience an array of well-being indicators such as vitality, mindfulness, self-actualization, and flourishing. Intrinsic aspirations are deemed pivotal in the path to a good life because they align people with ways of living that can foster eudaimonic well-being through basic psychological needs satisfaction. I finished by presenting the theoretical perspectives on the types of environmental conditions thought to bring rise to intrinsic aspirations.

Chapter 2: Goal Expression In Naturally Occurring Language: Examining Whether Individuals' Free-Text Essays about the Future Reveal their Intrinsic and Extrinsic Aspirations.

Typically, individuals' intrinsic (personal growth, affiliation, physical health and community) and extrinsic aspirations (wealth, image and fame) are measured using the Aspiration Index (Kasser & Ryan, 1996; Kasser & Ryan, 1993, 2001), which is a 35-item self-report measure. Evidence garnered using this scale has found that the differential links between intrinsic and extrinsic aspirations and well-being are reliable and apply across genders (Kasser & Ryan, 1996; Rijavec et al., 2011), cultures (Grouzet et al., 2005; Nishimura et al., 2021; Ryan et al., 1999), and age groups (Davids et al., 2017; Van Hiel & Vansteenkiste, 2009). However, what we can learn about individuals' aspirations using the Aspiration Index is limited by the fact that only individuals who comprehend, and therefore can complete, a questionnaire can take part in studies. Alternatively, the content of naturally occurring language could reveal whether individuals orient towards intrinsic or extrinsic aspirations. If goals, as expressed through naturally occurring language reflect individuals' aspiration orientations, then the coding of qualitative content may offer another means through which individuals' goal content can be understood. Individuals who may be limited in their capacity to complete self-report measures such as the Aspiration Index include children. Which is not to say that children do not have aspirations. Indeed, children are likely able to articulate their aspirations in their own words. Thus, a valid method of coding the aspiration content in free-text or transcribed free-speech essays may allow researchers to study the aspirations of people who cannot otherwise complete the Aspiration Index. Given the above-mentioned benefits of capitalising on naturally occurring language to study aspirations, the current chapter details the development a qualitative coding system, designed to assess the

intrinsic and/or extrinsic quality of aspirations as expressed in free-text essays and determine its validity in relation to the Aspiration Index.

The Utility of the Aspiration Index

The Aspiration Index was created in the 1990s, when SDT researchers started to think about questions pertaining not only to goals but how such goals related to the satisfaction of psychological needs and, in turn, well-being (Ryan & Deci, 2017). The creation of the Aspiration Index, came at a time that was fundamental in teasing apart modern societal beliefs regarding goals and what constitutes the 'good life'.

The concept of goals has been considered and studied for centuries and can be seen in the work of Aristotle who believed that happiness was found in the virtue of doing what is worth doing (Ryan & Deci, 2001). The field of research exploring goals and aspirations is abundant across theory and context, yielding relevance in areas such as sport, education, development, career, health and more broadly life purpose and well-being.

Goals represent a desired future state and it is believed that what we value is what we pursue (Wigfield & Eccles, 2000). An individual's goals may be apparent in the way they choose to spend their time and energy, the thoughts that frequent their mind, to the verbalisation of their values and pursuits they deem personally relevant. The motivation behind goals has also received attention, such as the degree to which an individual focuses on the mastery or performance (Ames & Archer, 1988) and the degree to which an individual engages in goals with volition to various forms of controlled motives (Deci & Ryan, 2012).

A question that remained unanswered to SDT researchers, was whether valued goals equated to well-being in life or whether the content of one's goals needed to exhibit particular characteristics that would be more conducive to psychological need satisfaction. This question was seen as fundamental to inform research and practice about optimal well-being

and flourishing. It was from this question that the Aspiration Index was born and the first research to investigate the content of individuals' aspirations emerged.

In 1993, Kasser and Ryan developed the Aspiration Index to survey individuals about the types of goals or aspirations they had, the likelihood they believed they would achieve such aspirations, as well as measures of depression and anxiety. This study was the first to test out the idea that 'what' one aspires toward matters because what one aspires toward may be more or less conducive to psychological need satisfaction (goal contents theory). The results demonstrated that intrinsic aspirations including personal growth, affiliation and community, were closely related to one another but negatively related to factors of anxiety and depression (Kasser & Ryan, 1993). In comparison, the extrinsic aspiration, wealth was found to be positively associated with factors of anxiety and depression. Intrinsic aspirations were thought to more directly satisfy psychological needs because such aspirations place people in direct contact with situations in which they experience autonomy, relatedness and competence. Whereas, extrinsic aspirations could at best put people in contact with experiences and situations that might indirectly satisfy psychological needs.

Decades on, the support for goal contents theory has increased, as research has been expanded across countries, age groups, genders and utilising a range of measures of ill-being and well-being, such as depression, anxiety, vitality, life satisfaction, meaning in life, mindfulness, prosocial behaviour and pro environment behaviour (Bradshaw et al., 2018; Kasser et al., 2014; Martela et al., 2019; Martos & Kopp, 2014; Ryan et al., 1999; Schmuck et al., 2000; Sheldon & Krieger, 2014).

Goal contents theory has helped to shed light on societal beliefs about what constitutes the 'good life'. A large body of work, that has utilised the Aspiration Index, refers to concepts of consumerism and materialism. While a certain level of material acquisition is deemed to be important to human survival, research has also come to recognise the dark side

of material pursuits (Kasser & Ryan, 1993). Research suggests that when an individual becomes predominantly focused on material pursuits, image and fame, they deviate from what is truly meaningful (Kasser, 2002).

A particular psychological risk of materialism is that an individual may predominantly look outside of themself for their sense of worth (Kasser, 2002). Several studies have identified materialism as a method that some may use to compensate for low self-esteem (Chaplin et al., 2007; Chaplin & John, 2010). While following societal trends and upholding a particular 'desirable' image may hold benefits such as a sense of security or gaining popularity, they do not guarantee the satisfaction of psychological needs (Kasser, 2002). Excessive pursuit of materialism can be understood as a less healthy attempt at psychological need satisfaction. Goal contents theory posits that striving for intrinsic aspirations is more likely to lead to more stable forms of self-esteem, unconditional positive regard and the adoption of identities that are more aligned with an individual's own inner compass and personal growth (Ryan & Deci, 2017).

Taken together, evidence from goal contents theory research suggests that 'what' we aspire to has implications that are psychologically relevant and far reaching, spanning from individual and community well-being, to our material footprint on the environment (Bradshaw et al., 2021). Goal contents theory shifts the paradigm away from the 'good life' being found solely in material acquisition and promotes a more personalised framework consisting of a life of meaning, psychological need satisfaction and eudaimonia.

Looking Forward with the Aspiration Index

While the Aspiration Index has been instrumental in exploring the premises of goal contents theory, there still remain unanswered questions. Researchers have continued to explore what constitutes intrinsic and extrinsic aspirations (Martela et al., 2019), and have also started looking at concepts of integrative span, to which an individual applies one's

aspirations personally or more broadly to others and the environment (Bradshaw et al., 2021). Further insight into personal trajectories of aspirational pursuit would also add value to our understanding of how people aspire over time.

While aspirations have been found to be relevant across the lifespan, less research has been done on the early development of aspirations or tracked individuals' aspirations over longer periods of time. Such research would need to utilise methods that can effectively examine the early development of aspirations, as well as find ways to track individuals' aspiration orientations across large periods of time. One possible avenue could be to have individuals complete the Aspiration Index across multiple points across one's lifespan. Another area to consider is how to best assess the goals of individuals who may not be able to complete the Aspiration Index, such as children. In addition, SDT researchers acknowledge that while quantitative research has been fundamental in establishing key concepts found within SDT, research could be broadened and enriched by the greater use of qualitative work (Ryan & Deci, 2020). The above areas all point to the need for a qualitative approach to assessing aspirations in a way that is theoretically aligned with goal contents theory.

Capturing Aspirations in Natural Language

Researchers have started to consider the utilisation of goal contents theory amongst qualitative research (Bradshaw et al., 2018; Moulton et al., 2015, 2016). Several studies have captured children's career aspirations and utilised principles from SDT to create coding strategies aimed at categorising children's desired careers into aspiration types (Moulton et al., 2015, 2016). A tool created by Moulton (2015) involves a system in which children's career preferences are coded to reflect the degree to which they are extrinsic (centred around fame, image and wealth), or intrinsic (centred around helping others, charity and personal growth). The scale spans from, extrinsically-oriented career type (i.e. sports player), extrinsic-intermediate (i.e. hairdresser), otherwise (i.e. cleaner), to intrinsic-intermediate

(i.e.teacher or veterinarian). Moulton (2016) noted that there were very few children who listed purely intrinsic career goals relating to personal growth or giving to charity, so they merged the intrinsic and intrinsic-intermediate categories together. Career goals were automatically deemed intrinsic for the cases in which a clear intrinsic motivation was apparent, such as the use of words such as 'care, help or charity'. Findings from such studies have found that intrinsic career aspirations were more common in girls (49.7%) compared to boys (10.1%) and that extrinsic career aspirations were strongly positively related to masculine aspirations (Moulton et al., 2016). Such findings are in line with previous SDT evidence that women tend to be more intrinsically oriented than men (Kasser & Ryan, 1996; Rijavec et al., 2011).

While the coding system by Moulton et al. (2015) was able to provide some insight into factors relating to children's career aspiration orientation, the authors identified some drawbacks regarding the application of their results. Strong conclusions about motivation behind the career choice were not able to be established, as children were not asked to identify motivational content. While a child's career preference could reflect a range of motives such as volitional interest and personal growth, or the desire for wealth, it is difficult to draw conclusions of value orientation. Rather, conclusions can only be drawn about the— arguably stereotyped— intrinsic/extrinsic nature of the career itself. This may pose an issue if, for example, the aspiration to be a doctor was coded as intrinsically-oriented due to the helpful qualities of the job, but a child's motivation may actually be towards the wealth associated with the profession, which is a more extrinsic motivation. Similarly, a child may have desired a seemingly extrinsic career such as being a singer or a performer, but that choice could reflect a preference for a profession that includes their intrinsic interests, thus actually being intrinsically oriented. Another drawback of coding qualitative data with a sole focus on children's career aspirations is that it does not capture broader life aspirations

outside of career. A child's career preference is just one aspect of an individual's goal pursuits. A more sensitive measure of intrinsic and extrinsic aspirations as conceptualised in SDT's goal contents theory would include a broader span of life goals.

A coding system that encompasses the life goals specified within goal contents theory can be found in a study by Bradshaw et al. (2018). The aim of the study was to determine whether an orientation towards intrinsic versus extrinsic goals would influence participant engagement in a web-based alcohol intervention and alcohol dependence risk level. In order to effectively analyse the goals of participants in line with SDT's principles, Bradshaw et al. (2018) developed a coding system to enhance specificity and capture the seven aspirational domains found in the Aspiration Index. The domains found in the Aspiration Index are categorised into extrinsic aspirations (wealth, fame and image) and intrinsic aspirations (personal growth, close relationships, community service and physical health). The coding system allocated counts based on each aspiration type and the frequency with which the goal type was mentioned by each participant. For example, a participant who listed their goals as wanting to look more attractive, own lots of property and earn a large amount of money would receive 1 count under the extrinsic category of 'image', 2 counts under the extrinsic category of 'wealth' and no counts for any of the other categories. In this case, the participant would have a score indicative of an extrinsic aspiration orientation. The results showed that engagement in the intervention was linked to participants having a higher level of intrinsic goals, such as relationship and community-related goals. Alcohol dependence risk was found to be greater in participants who had goals of either money (extrinsic), personal growth (intrinsic) and relationships (intrinsic) aspirations. The coding method allows qualitative goal-related information provided by individuals to be analysed in line with the principles of SDT.

Qualitative Coding Systems to Assess Aspirations

As outlined above, the field would benefit from the development of a system to measure aspirational content in naturally occurring language, in a way that captures aspirations as defined in goal contents theory because it would offer a way to better understand the aspirations of children and expand the scope for research into goal content within qualitative data. The main tool used to measure adult aspirations is the Aspiration Index (Kasser & Ryan, 1996; Kasser & Ryan, 1993, 2001), as well as an adapted version suitable for adolescents (Kasser et al., 2014). While the Aspiration Index has proved to be a valid widely-used assessment tool, the research has yet to explore whether aspirations orientations can be effectively identified in the context of free text. There is a need for a method that can be used to analyse the aspirational language of individuals who may not have the ability to complete a self-report measure such as the Aspiration Index.

The current chapter aimed to assess the validity and utility of three coding-systems (human count system, human thematic system, and computer text search system) applied to individuals expressing their aspirations in the form of naturally occurring language about what their life would look like in 10 years time. The coding systems vary in regards to the use of computer generated coding or human coding, as well as to the degree to which the system utilises a ceiling score regarding the number of counts allocated to any given domain. The first system is a count-system similar to that seen in the work from Bradshaw et al. (2018), which involves human raters counting frequency of aspirational content. The second is a thematic-system, a human-rated system that is closely aligned to the items and key themes from the Aspiration Index and has a ceiling limit of three counts that can be allocated to each of the seven domains. The third is a word search system based on a dictionary of aspirational domain terms created by SDT researchers which are searched throughout the essays using the computer system Nvivo. Evaluating and comparing the three coding systems enables greater

insight into which system holds the greatest utility in uncovering aspiration orientation in naturally occurring language.

The rest of the chapter details the steps of a pilot study in which we asked adult participants to complete both a free text essay outlining their aspirations for the future, as well as the 35-item Aspiration Index (Kasser & Ryan, 1993, 1996, 2001). In order to assess the utility of three coding systems, we first needed to determine whether the qualitative codes reflect constructs similar to those described in the Aspiration Index literature. For each of the coding systems, we statistically assessed the degree to which the coding of the participants' essays predicted participants' responses on the Aspiration Index. The aim was to determine which coding system was most closely related to the Aspiration Index. If one or any of the coding systems are found to be related to the Aspiration Index, it will provide evidence that the coding strategy is a valid method of assessing intrinsic and extrinsic aspirations in naturally occurring language. If a coding system is valid, we, and other researchers, can use it to study intrinsic and extrinsic aspirations in other qualitative data, which is the aim of the larger project that this study underpins. Individual differences in aspiring are also expected based on the demographic patterns of aspiring within the SDT literature. Further confirmation of the utility of the coding methods will be found if they demonstrate similar patterns of demographic variability.

Research Questions and Hypotheses

Hypothesis 1

The levels of intrinsic and extrinsic orientations identified within naturally occurring language will be positively associated with the intrinsic and extrinsic scores as reported on the Aspiration Index for all three coding systems.

Research Question 1

Of the three coding systems, which will work the best by demonstrating the strongest association between aspiration orientations in naturally occurring language and scores on the Aspiration Index?

Hypothesis 2

Females will have higher levels of intrinsic aspirations than males on the Aspiration Index. Males will have higher levels of extrinsic aspirations than females on the Aspiration Index.

Hypothesis 3

Socioeconomic status (SES) will be negatively correlated with extrinsic aspirations on the Aspiration Index.

Hypothesis 4

Age will be negatively correlated with extrinsic aspirations on the Aspiration Index.

Research Question 2

Of the three coding systems, which will show similar patterns of demographic individual differences in aspiration orientation to that seen in the Aspiration Index?

Method

Participants

The current study consisted of a sample of 209 participants, from the United States, aged 18 years and older. The age of participants ranged from 18 to 84, with a mean age of 51. There were a total of 107 females, 100 males and 2 individuals who identified as non-binary/third gender. Participants were recruited through Qualtrics and were asked to complete a 20 minute questionnaire comprising demographic questions and both the Aspiration Index and a short piece of writing about their aspirations, presented in a randomised order.

Materials

Questionnaire Battery

The 20-minute questionnaire comprised three major components: demographic questions, an aspiration orientation essay, and an aspiration questionnaire.

Demographic Variables

Demographic data included measures of age, gender, education, employment, objective SES and subjective SES. Education was measured by asking participants to select the highest level of education they had completed. Employment was measured by asking participants to indicate whether their current employment status was either unemployed, part-time or full-time. Objective SES was measured by participants selecting a bracket of income that best reflected their personal and household yearly income. Subjective SES was measured by participants indicating where they believed they currently stood on a ladder from 1-10 compared to others in their country, with 1 being worst off and 10 being best off in regards to wealth, education and employment (Adler & Ostrove, 1999).

Aspiration Index

Aspirations were measured using the 35-item Aspiration Index (Kasser & Ryan, 2001). The questionnaire measures seven types of aspirations, four of which are classified as intrinsic (personal growth, affiliation, physical health and community giving) and three of which are classified as extrinsic (wealth, fame, image). Participants were asked to rate each life goal from 1 (Not at all important) to 7 (Very important). Example statements from each subscale include: personal growth (e.g., "It is important for me to grow and learn new things"), affiliation (e.g., “To have deep, enduring relationships”), physical health (e.g., “To have a physically healthy lifestyle”), community giving (e.g., “To help others improve their lives”), wealth (e.g., “to be rich”), fame (e.g., “to be famous”), image (e.g., “To have an image that others find appealing”). Cronbach’s alphas were 0.68 for personal growth, 0.78 for

affiliation, 0.81 for physical health, 0.88 for community giving, 0.85 for wealth, 0.89 for fame and 0.83 for image.

Aspiration Orientation Essay

The qualitative aspiration data was measured by asking participants to complete a small piece of writing about their aspirations. Participants were asked to 'Imagine what your life will be like 10 years from now... please take five minutes or so to write about the life you are leading (how you spend your time, your priorities, etc.)'. The aspiration orientation of the participants was measured using each of the four coding systems created to code the qualitative information in the essay based on aspiration domains (wealth, fame, image, personal growth, affiliation, physical health, community involvement) from the Aspiration Index (Kasser & Ryan, 1993, 1996, 2001).

Procedure

Data Collection

Data managers from Qualtrics were consulted at various points in the initial development and trial of the survey to enhance the collection of high quality data. Once the survey was ready for distribution on Qualtrics' online platform, a soft launch of the survey occurred.

I viewed the data obtained in the soft launch and provided feedback to Qualtrics so changes could occur before proceeding with the hard launch. The data of the soft launch revealed that some participants completing the aspiration essay had spent minimal time completing the essay, either providing a one word answer, a very short answer or an answer that was irrelevant or did not make sense. Such responses would offer forms of bias, as they do not provide enough information to code a range of their aspirations or are not a valid representation of aspirational data. All of these answers were flagged as low quality to

Qualtrics and a timer mechanism was implemented to minimise and screen out low quality answers.

Qualtrics observed that the low quality answers for the soft launch essays appeared to be more predominant in those who took less than two minutes to complete their response. Qualtrics developed a timer mechanism which was then used in the hard launch. The timer detected when a participant had spent less than one minute on their essay response and then provided them with a message prompt to encourage them to spend longer on their response. If participants spent a total amount of time less than 90 seconds on their essay, they were excluded from the study.

Once the data had been collected, the essays were screened for any identifying information. While participants had been advised not to include any identifiable information in their essays in the participant letter, if they happened to mention a name or a place in their writing this was removed before coding occurred. The essays were then kept in two separate folders in a randomised order to ensure blinding effects between the two independent coders.

Development of Coding Systems

The development of the coding systems entailed a number of procedures to ensure the systems were informed by goal contents theory and could be applied to free-text essays of participants. The validity of the coding systems were enhanced through consistent consultation with Dr Bradshaw, a specialist in the area of goal contents theory and who is highly familiar with the use of the Aspiration Index, as well as consulting with a number of SDT experts and researchers, including Professor Richard Ryan, Dr Emma Bradshaw, Professor Philip Parker and Dr Baljinder Sahdra.

Coding involves identifying meaningful segments in qualitative data and assigning them a code, which serves as a symbolic representation of their essential attributes (Linneberg & Korsgaard, 2019). There are different ways to do coding, such as human colour

coding themes, and special softwares designed to identify specified data in qualitative text. Human coding has some advantages, such as the opportunity for deeper insights into the data, and prompting helpful ways to organise the data. Computer coding can be advantageous, especially when striving to code large quantities of data. Coding can be inductive or deductive. An inductive approach is often seen in traditional methods of qualitative coding (Glasser & Strauss, 1967; Strauss & Corbin, 1990). Inductive coding involves creating codes directly from the data itself. Inductive coding is most useful for exploratory studies or when theoretical concepts are limited. Deductive coding involves having a predefined coding framework derived from existing literature or theory, and facilitates analytical generalisation (Miles et al., 2014).

The aims of investigation in this thesis are aligned with a pre-existing theoretical framework of intrinsic and extrinsic aspirations. Therefore, I deemed it most appropriate to adopt a deductive approach. There are a number of ways that an individual might express the importance of a goal in naturally occurring language. For example, repeating a similar theme several times, or using language that indicates that wish for something in abundance. Alternatively, there are qualitative methods that put a ceiling on the number of times text occurrences are counted, and instead identify the presence of a theme rather than single occurrences of text. The benefits of having a ceiling score include reducing both inflation and false positives.

Based on the various coding considerations, I opted to conduct a pilot study, adopting a deductive approach that tested the validity of three different systems, varying in the extent to which they were human versus computer coded, and count versus thematic in nature. Involving multiple coders or checking agreement between assigned codes can also help to ensure reliability. The pilot study involved three human coders, so that the reliability of the coding systems could be evaluated. The literature also recommends transparency in

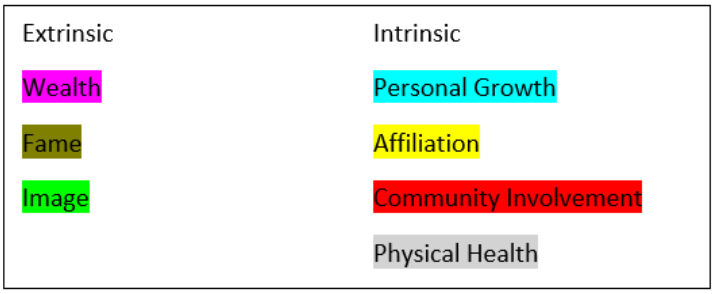
coding systems, so that the coding method can be linked to the analysis made (Elo et al., 2014). Each coding system has been carefully documented.

The Count System. The count system involves counting the frequency of content of the seven aspiration domains from the Aspiration Index occurring in the participant essays. The count system is based on the system found in Bradshaw et al. (2018) developed a coding system to enhance specificity and capture the seven aspirational domains found in the Aspiration Index. The count system allocates counts based on each aspiration type and the frequency with which the goal type was mentioned by each participant. For example, a participant may express that they wish to "have a high paying job, save money for a holiday, buy a house and buy a motorcycle". All of these aspirations fell under the category of 'wealth' and the total counts of wealth-related comments is four. Therefore, the count score for this individual in the domain of wealth would be four. The only instance in which a wealth-related comment was not counted was when a participant repeated or referred to the exact same aspiration such as mentioning that they really wanted a motorcycle twice. Refences to money in the context of autonomous motivations such as helping others were counted because the relative importance of wealth has been found to be negatively related to well-being, even after controlling for the reasons behind valuing wealth (Carver & Baird, 1998). The counts for each aspiration area were calculated, so a participant-level analysis could be obtained to uncover total intrinsic and extrinsic count scores. Total intrinsic aspiration count scores were found by combining the total amount of counts across personal growth, affiliation, community involvement and physical health domains. Total extrinsic count scores were found by combining the total amount of counts across wealth, image and fame domain. A sample essay from the same participant, coded using the count system (Figure 1), thematic system (Figure 2) and text search system (Figure 3) is shown in order to highlight how the systems differ in coding. The associated colour coded system and coding

scores tables for these essays demonstrates the counts that would be allocated to the seven aspiration domains based on the qualitative content provided.

Figure 1

Count System Applied to a Sample Essay



I hope my life turns out just the way I want it to be. I want to have enough money to look after my family. I hope to one day get out of debt. I want to be able to enjoy life the way I always wanted it to be I want to live without worrying about money.

Wealth	Fame	Image	Personal Growth	Affiliation	Community Involvement	Physical Health
III			II	I		
Extrinsic			**Intrinsic**			
III			III			

Thematic System. The thematic system involved counting the presence of three key themes from each of the seven aspiration domains found in the Aspiration Index. The thematic system differs from the count system in that there is a maximum of three counts a participant may receive for any given aspiration domain based on the presence or absence of the three key themes for each domain. By only coding for the three themes, the thematic system reduces the possibility of count inflation across domains and ties closely to the key themes seen in the Aspiration Index. The three themes were developed by evaluating the items on the Aspiration Index. As an example, the items on the Aspiration Index for the domain of wealth include “To be a very wealthy person ”, “To have many expensive

possessions", "To be financially successful", "To be rich" and "To have enough money to buy everything that I want". The key themes of these items centre around money, possessions and the idea of seeking excess wealth and possessions. The three themes selected for the wealth domain for the thematic system included one count allocated if there was a mention of money, one count allocated if there was a mention of at least one possession they desired and one count allocated if there was evidence of content that the individual desired to be particularly wealthy and/or have many possessions. For a list of the key three themes for each of the seven aspiration domains please see Appendix A. A total intrinsic and extrinsic score was calculated by tallying the counts across intrinsic and extrinsic domains respectively.

Figure 2

Thematic System Applied to a Sample Essay

I hope my life turn out just the way I want it to be. I want to have enough money to look after my family. I hope to one day get out of debt. I want to be able to enjoy life the way I always wanted it to be. I want to live without worrying about money.

Wealth	Fame	Image	Personal Growth	Affiliation	Community Involvement	Physical Health
I			I	I		
Extrinsic			Intrinsic			
I			II			

Text Search System. The text search involved developing a list of key words expected to be used by individuals who aspire in each of the seven domains on the Aspiration Index. To ensure that the key words would be deemed evidence that an intrinsic or extrinsic aspiration was theoretically aligned with goal contents theory, I shared the list with a number of SDT experts and researchers including Professor Richard Ryan, Dr Emma Bradshaw, Professor Philip Parker and Dr Baljinder Sahdra. The group of SDT experts and researchers viewed the list of terms and provided feedback and offered suggestions regarding additional inclusion of terms. A list of the key words for each domain can be found in Appendix E. The

frequency of these keywords were then searched for within the participant essays using the computer program Nvivo. A total intrinsic and extrinsic score was calculated by tallying the counts across intrinsic and extrinsic domains respectively.

Figure 3

Text Search System Applied to a Sample Essay

I hope my life turns out just the way I want it to be. I want to have enough money to look after my family. I hope to one day get out of debt. I want to be able to enjoy my life the way I always wanted it to be. I want to live without worrying about money.

Wealth	Fame	Image	Personal Growth	Affiliation	Community Involvement	Physical Health
II				I		
Extrinsic			Intrinsic			
II			I			

The main difference seen across the coding systems in the above example lies in the frequency of content coded and the sensitivity in detecting relevant aspiration content. The count system yields the highest counts for wealth (three counts) out of all the systems because it refers to an aspiration surrounding money in three different ways. In comparison, the thematic system would view these same three comments surrounding money as falling under the same theme (mention of money) and only yielding one count. The text search system only allowed detection of the key words ‘financially’ and ‘money’, yielding a total wealth count of two. In regards to sensitivity, both the count and thematic systems have picked up on the content related to personal growth within the essay. The count system yielded a total of two counts for personal growth as there were two personal growth statements. In comparison the thematic system only yielded one count for personal growth because it views the statements surrounding wanting their life to turn out how they hoped and being able to enjoy their life, as falling under the same personal growth theme of wanting to

live their life volitionally. The text search system did not pick up on any personal growth content as there were no words used from the text search dictionary in the domain of personal growth.

Data Analysis

Differences in aspiration counts across demographics were also explored using linear regression. Demographic variables which held an ordinal structure were ordered appropriately and entered as the independent variable, with the aspiration counts as the dependent variable. The mean counts were reported for the demographics in which a statistically significant difference was found in aspiration counts for a particular demographic.

In order to assess inter-rater reliability, the Intraclass Correlation (ICC) was assessed for the three raters across both the count and thematic systems. I utilised the icc function from the irr package (Gamer et al., 2019). Measures of ICC2 were utilised consistently throughout the development of the count and thematic coding system. Initially the same 20 essays were assessed for both systems by each rater and the ICC2 highlighted discrepancies. Once the raters were fully trained in both count and thematic systems, they each rated the same 50 essays and the ICC2 was evaluated. An ICC2 score less than 0.40 is deemed poor, between 0.40 and 0.59 is deemed fair, between 0.60 and 0.74 is deemed good and between 0.75 and 1.0 is deemed excellent (Hallgren, 2012).

The validity of the count system and thematic system with the Aspiration Index was analysed with a linear mixed-effects model approach, which considered the repeated measurement occasions (across raters) within participants. This model is an extension of linear regression and entails the estimation of both fixed effects (the relationship between aspiration count data and aspiration score on the Aspiration Index) and random effects to identify unique rater effects. A linear mixed effects model approach allows one to retain all

observations from participants. I used the lmer function of the lme4 package (version1.1-27.1; Bates et al., 2014) in R. I performed a linear regression using the lm function for the text rating system.

Ethics

The current study received ethical approval from the Australian Catholic University Human Research Ethics Committee (2020-205E).

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Results

Demographics

The level of intrinsic and extrinsic counts were examined to determine whether there were any statistically significant differences across age groups, genders, and SES and whether this varied by coding system. First, I analysed the hypothesised relationships between demographics including age groups, genders, and SES and levels of intrinsic and extrinsic aspirations as measured by the unstandardized Aspiration Index. The metrics of the demographic variables were unstandardized, and dummy variables were used to capture the categorical nature of these variables. Next, I analysed the relationships between the unstandardized demographics and intrinsic and extrinsic counts of each coding systems to determine whether the coding systems also held the hypothesised relationships based on the literature and findings from the Aspiration Index analyses. The metrics of the intrinsic and extrinsic counts were also unstandardized. If the demographics within the coding systems demonstrate similar relationships to those found in the Aspiration Index and supported by the literature, it provides further support for their utility.

Aspiration Index Demographics

Age

Hypothesis 4 that age would be negatively correlated with extrinsic aspirations was supported, as there was a statistically significant negative relationship between age and extrinsic aspirations (b = -0.29, $p < 0.001$). For every one unit increase in age, there is on average, a 0.29 decrease in extrinsic aspirations in their unstandardized metric.

Gender

Support was provided for Hypothesis 2 as there was a statistically significant difference between males and females for extrinsic aspirations ($F(2, 206) = 5.39$, $p < .001$, $R^2 = 0.02$). Males had higher mean levels (M = 52) of extrinsic aspirations than females (M = 45). No statistically significant differences were found between females and males for intrinsic aspirations.

SES

Support was provided for Hypothesis 3 as there was a statistically significant difference found in extrinsic aspiration across SES levels ($F(9, 199) = 164.2$, $p < 0.001$, $R^2 = 0.89$). The confidence intervals for each level of the model indicated that extrinsic aspiring was higher for participants who self-identified as belonging to level nine (M = 62, SD = 12.5), compared to those who identified as belonging to level two (M = 35.8, SD = 5.3). There was a statistically significant difference found in intrinsic aspiration across SES levels ($F(10, 199) = 1358$, $p < 0.001$, $R^2 = 0.99$). The confidence intervals for each level of the model indicated that extrinsic aspiring was higher for participants who self-identified as belonging to level seven (M = 133, SD = 10.28), compared to those who identified as belonging to level four (M = 111.78, SD = 2.74).

Coding System Demographics and Comparisons with the Aspiration Index

Demographics

Age

All three coding systems found a statistically significant difference in aspiration counts across age groups (count: $F(2, 206) = 12.82$, $p < .001$, $R^2 = 0.07$; thematic: $F(2, 206) = 9.38$, $p < 0.01$, $R^2 = 0.05$; text search: $F(2, 206) = 3.25$, $p < 0.05$, $R^2 = 0.02$). All three coding systems found those above the age of 50 had the lowest mean extrinsic counts than the other age groups of 18-34 and 35-50 (count mean: 0.43; thematic mean; 0.40; text search mean: 0.30). This was consistent with the finding that there was a statistically significant negative relationship between age and extrinsic aspirations as measured by the Aspiration Index. The count system also found a statistically significant difference in intrinsic aspirations across age groups ($F(2, 206) = 3.14$, $p = .04$, $R^2 = 0.01$), with those over the age of 50 having the highest level of intrinsic aspirations. This is consistent with evidence suggesting that intrinsic aspiring increases with age (Sheldon, 2005).

Gender

All three coding systems found a statistically significant difference between males and females for intrinsic aspirations (count: $F(2, 206) = 10.38$, $p < .001$, $R^2 = 0.07$; thematic: $F(2, 206) = 4.28$, $p = 0.01$, $R^2 = 0.02$ text search: $F(2, 206) = 6.96$, $p < .001$, $R^2 = 0.05$). Females had higher mean levels of intrinsic aspirations (count mean: 3.14; thematic mean: 2.43; text search mean: 2.5) than males (count mean: 2.09; thematic mean: 1.96; text search mean: 1.5). Higher levels of intrinsic aspirations for females compared to males, which is expected based on the patterns found within the SDT literature. No statistically significant differences were found between males and females for extrinsic aspirations, which is not consistency with evidence from the literature suggesting that males have higher extrinsic aspirations than females (Kasser & Ryan, 1993).

SES

Of the three coding systems, the count and thematic systems both found a statistically significant difference in intrinsic aspiration counts across SES levels (count: $F(9, 199) = 2.32$, $p = 0.01$, $R^2 = 0.04$; thematic: $F(9, 199) = 2.19$, $p = 0.02$, $R^2 = 0.34$). Both systems found the lowest level of intrinsic aspirations were present at the lowest level of the SES ladder (count: 1.29; thematic: 1.2). Where the systems differed was in the SES level that contained the highest intrinsic scores. The count system found the highest mean level of intrinsic aspirations occurred at level seven (out of 10) (mean = 3.42) and the thematic system found the highest level of intrinsic aspiration counts occurred at level nine (mean = 4). There were no statistically significant differences found for extrinsic aspirations. While the coding systems were not aligned with hypothesis 3, as they found no significant difference in aspiration levels across SES, they did show a similar pattern to the levels of intrinsic aspiring compared to that of the Aspiration Index. The highest levels of intrinsic aspiring occurred at level 7 for the Aspiration Index and the count system and at level 9 for the thematic system.

Inter-Rater Reliability

The results for interrater reliability are found in Table 3. Personal growth was a domain that consistently yielded the lowest inter-rater reliability compared to the other six aspiration domains. This may be because it is the most subjective area of aspirations. What one person identifies as an activity that fosters growth, holds a sense of volition and meaning, may look very different to each participant and to each rater. The original inter-rater reliability surrounding personal growth when the three coders trialled the systems had an ICC2 level of 0.25 for the count system and 0.44 for the thematic system. The decision was made to be more selective and search for specific personal growth content rather than trying to subjectively determine the degree to which an activity represented personal growth . This involved only coding content that contained specific content indicating that they wish to 1)

grow and learn new things, 2) be volitional, and 3) have a meaningful life. Making the themes more specific resulted in an increase in interrater reliabilities for both the count and thematic systems. Using the specific system, the ICC2 became 'fair' for the count system and 'good' for the thematic system. However, personal growth remained the aspiration domain with the lowest level of interrater reliability.

Table 3

ICC2 Results Across Aspiration Domains for the Count and Thematic Systems

Aspiration Domain	Count System	Thematic System
Extrinsic	0.84	0.83
Wealth	0.86	0.81
Image	NA	NA
Fame	0.84	0.85
Intrinsic	0.80	0.80
Personal Growth	0.50	0.64
Affiliation	0.86	0.78
Community Involvement	0.90	0.82
Physical Health	0.85	0.83

Note. ICC scores <0.40 = poor; 0.40 - 0.59 = fair; 0.60 - 0.74 = good; 0.75 - 1.0 = excellent (Hallgren, 2012). NA = no image aspirations available to code.

Validity of the Coding Systems

The metrics used in this analysis were in the form of z-scores, which allowed for comparisons across the different coding systems, as predictors of scores on the Aspiration Index which were also in the form of z-scores.

Comparing Validity of Coding Systems for Extrinsic Aspirations

To test which coding system was the best predictor of participants' extrinsic scores on the Aspiration Index, I performed a mixed linear regression for each of the thematic and

count systems, controlling for rater ID (which contained three levels, one for each rater) as a random effect. I performed a linear regression for the text rating system.

The count system was found to be the strongest predictor of participants' extrinsic scores on the Aspiration Index, demonstrating a medium-sized, statistically significant association, $\beta = 0.25$, 95% CI [0.14, 0.35]. This was followed by the thematic system, $\beta = 0.19$, 95% CI [0.08, 0.30] and then the text search system, $\beta = 0.003$, $p = 0.96$.

Comparing Validity of Coding Systems for Intrinsic Aspirations

To test which coding system was the best predictor of participants' intrinsic scores on the Aspiration Index, I performed a mixed linear regression for the thematic and count systems and controlled for rater ID (which contained three levels, one for each rater) as a random effect. I performed a linear regression for the text rating system, as rater ID was not relevant for these were computer generated rating scores.

The thematic system was found to be the strongest predictor of participants' intrinsic score on the Aspiration Index, demonstrating a medium-sized, statistically significant association, $\beta = 0.22$, 95% CI [0.11, 0.33]. This was followed by the text search system Index $\beta = 0.18$, 95% CI [0.05,0.31] and then the count system $\beta = 0.16$, 95% CI [0.04, 0.27].

Discussion

The aim of the Chapter 2 was to outline the development and evaluation of three coding systems designed to assess an individual's aspiration orientation (i.e. intrinsic or extrinsic) in naturally occurring language. The results demonstrated that the three systems varied in the degree to which they predicted participants' scores on the Aspiration Index.

Partial support was found for my hypothesis that all the coding systems would relate positively with the related Aspiration Index score. Not all coding systems were found to have a positive association with Aspiration Index scores. The thematic and count systems were both found to positively predict scores both on intrinsic and extrinsic aspirations. The text

search system was a positive predictor of intrinsic aspiration scores but had no effect for extrinsic aspirations. The results demonstrate that not all coding systems show utility in predicting Aspiration Index scores, meaning that not all qualitative coding systems adequately operationalise the aspiration constructs referred to within GCT. The findings suggest that the coding systems involving human raters are better predictors of individuals scores on the Aspiration Index. The text search system demonstrated utility in coding intrinsic aspiration but not extrinsic aspirations. Human coding arguably outperformed computer program coding because humans offer greater sensitivity and are able to consider the context of the text. However, a recent systematic review in the field of psychology suggests that automated coding methods are comparable to human coding, particularly in large datasets and when the content being coded is concrete (Ahmadi et al., 2021).

A key aim of the pilot study was to assess which of the coding systems was the most effective at capturing aspiration content, as measured on the AI. The results demonstrated that the strategies varied in their abilities to represent intrinsic and extrinsic aspiration content. Of the three systems, the thematic system was the strongest predictor of intrinsic aspirations but not extrinsic aspirations. The count coding system showed the greatest utility for predicting extrinsic aspirations scores. The results suggest that for intrinsic aspirations, the best coding approach may be one in which human raters code aspirational text based on the presence or absence of three key themes, closely tied to the Aspiration Index. The thematic system allows for a graded coding system which goes beyond just quantity to evaluate quality and depth. This is particularly highlighted in domains such as personal growth and affiliation. When comparing the count and thematic system in the domain of personal growth, the count system might score someone who includes a comment related to volition three times, three counts. In comparison, the thematic system would only score an individual three counts if they met all three themes of volition, growth and meaning.

Similarly, the count system may score someone three counts for having three non-romantic relationships such as a friend, their dog and their mother. In contrast, the thematic system would only allocate three counts if the person met the criteria for the three themes of the desire for a non-romantic relationship, a romantic relationship and valuing deep/meaningful relationships. Hence, the thematic system may be more sensitive to measuring the qualities believed to be at the centre of intrinsic constructs such as personal growth and affiliation.

In contrast, the results suggest that for extrinsic aspirations, the best coding approach would be for human raters to count the frequency of extrinsic aspiration content. The findings suggest that the frequency with which an individual talks about extrinsic goals may be an important predictor in estimating the degree to which they aspire extrinsically. There may be value in measuring the amount of times one mentions money rather than just the fact that they mentioned money at all. While the thematic system does allow for some grading in regards to desiring large amounts of money or excessive possessions, it still has a ceiling score of three. Whereas, the count system has no ceiling score and could capture an endless amount of money, possession or image related content.

The thematic system shows the greatest utility when selecting one system to offer a unified coding approach in naturally occurring language. The thematic system demonstrated validity for both intrinsic and extrinsic aspirations and is closely tied to the key themes found within the Aspiration Index.

Limitations

There are some limitations of the current study. First, the population was limited to participants aged 50-years old in the United States, which may limit the cross-cultural generalisability of the results. I also identified that the fourth coding system that aimed to take unique words used in the essays of those high in the seven domains was not viable. Further research could determine whether there are frequent words or themes that are present

in naturally occurring goal expression of those high in specific aspiration domains. Perhaps future studies could determine whether a unique dictionary of terms would be possible with a larger sample. Of the human coding systems, the personal growth domain was the most difficult to code due to its relatively subjective nature and was the hardest to reach sufficient inter-rater reliability. The capacity to differentiate between personal growth and volitional motivation is more challenging in naturally occurring language because certain words and phrases may be used in the context of both constructs. For instance, stating that one would love to be a pilot signifies an aspiration aligned with personal fulfilment but could simultaneously represent an individual who is higher in volitional forms of motivation and makes life choices driven by personal endorsement. Volitional motivation could be a confounding factor, hence, careful consideration is warranted when interpreting the results concerning the influence of volition on the relationship between personal growth and other variables investigated. Future research could explore whether the thematic system remains the best way to deal with personal growth content or whether there are alternative ways to deal with the subjective nature of what constitutes personal growth, volition and meaning.

This pilot study has advanced the field of goal contents theory demonstrating that a thematic coding system aimed at detecting intrinsic and extrinsic aspirations in naturally occurring language offers high levels of construct validity with the Aspiration Index, as well as high levels of interrater reliability. However, further work is needed to determine whether the thematic system can be generalised to other populations of different ages and cultures or whether other coding systems show greater utility.

Chapter Summary

Taken together, the results suggest that goal expression in naturally occurring language does reveal individuals' intrinsic and extrinsic aspirations. When goal expression is coded by human coders, trained in systems founded based on goal contents theory, intrinsic

aspirations appear to be better predicted by a thematic coding system in which three key themes related to the Aspiration Index are searched for within the text. Extrinsic aspirations appear to be better predicted by a count coding system in which the frequency of the extrinsic aspiration content is scored. The thematic system offers the greatest utility if selecting one unified system to code aspirations in naturally occurring language. The findings offer practical utility, as those who are unable to complete the Aspiration Index, such as children, could alternatively have their aspiration orientations revealed through naturally occurring language. Researchers will be able to utilise the coding systems to evaluate individuals aspiration orientations in qualitative data.

Chapter 3: Aspiration Orientations Over Time: Do Childhood Aspirations Predict Mid-Life Aspirations?

Examining the development of aspirations across the lifespan offers information about how individuals attempt to pursue meaningful lives. Learning about how aspirations change over time is beneficial because it provides information about how relevant early patterns of goal orientation are to later goal orientations. Despite consistent research demonstrating that prioritising intrinsic aspirations is a powerful vehicle to optimise well-being at any age (Deci & Ryan, 1985; 2012; Ryan & Deci, 2017), less is known about the stability of aspirations over time. That is, if someone orients toward intrinsic or extrinsic aspirations during childhood are they likely to continue to aspire in this way into mid-life?

Understanding the stability of aspirations over time could inform how to best support people's goal pursuit, and in turn, optimise their well-being across the lifespan. A trajectory in which aspiration orientations are relatively stable from childhood into mid-life would suggest that the early development of aspirations is fundamental in shaping aspiration orientations later in life. If aspiration orientations are consistent throughout the lifespan, support and intervention might best be aimed at optimising intrinsic aspiration orientation earlier in life. A trajectory in which aspiration orientations are found to be unstable from childhood into mid-life would suggest that aspirations are more malleable. If early aspirations do not predict aspirations later in life, patterns of early goal development may be less relevant in supporting well-being or suggest that goal orientation across decades is nuanced and changeable. An important starting point in understanding the stability of aspiration orientations over large breadths of time is to evaluate how the same individuals' aspirations track across decades, such as the period from childhood into mid-life. Chapter 3 aimed to address this gap using a longitudinal design to assess the within-subjects link between aspiration orientation at childhood (age 11) and aspiration orientation at mid-life (age 50).

Theoretical Perspectives on Aspiration Trajectories Over Time

There are varying theoretical perspectives on whether goals and value orientations are set early in life and remain stable or tend to change over time. Those who view aspirations and values as being more stable, identify childhood as a fundamental developmental stage in which values are transmitted through personal and cultural socialization (Hofstede, 2001; Rokeach, 1973). Others have suggested that goals and values are more likely to change over time compared to dispositional personality traits because they are considered more of a second-tier or mid-level personality construct reflecting personal concern (Emmons, 1989; McAdams, 1996). Some suggest that goal stability might be best framed within a broader question of whether humans are able to change psychologically (Sheldon & Kasser, 2001).

SDT considers all of the abovementioned perspectives when understanding the trajectories of aspirations people hold over time. SDT recognizes that between-person and within-person variation in aspirational pursuit does exist (Ryan & Deci, 2017). In addition, SDT views the function of goals within a broader mechanism of integrated functioning (Deci & Ryan, 2012; Ryan & Deci, 2017). Patterns of goal setting such as goal orientation reflect the degree of developmental progress toward integrated functioning (Deci & Ryan, 1985); intrinsic goals indicate more integrated functioning compared to those with a focus on extrinsic goals. The capacity to move toward optimal integrated functioning is influenced by proximal social contexts (Ryan & Deci, 2017). While social contexts are seen as influential across the lifespan, early proximal social contexts are seen to be fundamental in supporting or thwarting optimal functioning and the goals for which people strive (Deci & Ryan, 1985).

SDT views humans as complex organisms that exhibit regulatory functions aimed at achieving and maintaining health and integrity (Maturana & Varela, 1992; Panksepp & Northoff, 2009; Polanyi, 1958). Such regulatory functions are fundamental to human needs and goals (Ryan & Deci, 2017). Humans will naturally attempt to organise themselves and

their surroundings in ways that facilitate the integrative processes essential for optimal functioning. Goals are therefore seen as a mechanism by which people interact with and organise their environment in an attempt to satisfy their psychological needs.

SDT suggests that social contexts influence whether individuals tend to orient more toward intrinsic or extrinsic life goals (Deci & Ryan, 2012). The quality of proximal supports in early development is fundamental in facilitating optimal integrative functioning and an orientation toward intrinsic aspirations (Deci & Ryan, 2012; Ryan & Deci, 2017). Optimal integrative functioning is promoted early in life by experiencing warm and sensitive environments that nourish basic psychological needs. Such experiences aid in developing an individual's capacity to organise and interact with their environment in ways that will promote their own psychological need satisfaction (Deci & Ryan, 2012; Ryan & Deci, 2017). Exposure to need satisfying environments equips individuals to be more likely to seek out need satisfying environments in the future. Under need supportive conditions people will be more likely to seek goals that allow for direct psychological need satisfaction. One of the ways that individuals with greater integrated functioning promote their psychological need satisfaction is by prioritising intrinsic goals such as meaningful relationships, personal growth, physical health, and community involvement.

Early developmental social contexts can also undermine the integrative process, and see people prioritising extrinsic aspirations (Deci & Ryan, 2012). While nourishing environments increase motivation to engage and regulate goal activity for optimal functioning, need thwarting environments can act as a hindrance to goal setting conducive to well-being. Environments that are psychologically controlling and thwart psychological need satisfaction detrimentally impact the ways individuals organise their environments and set goals. Such as, organising their goals in more external and contingent ways. Early experiences of need frustration can see individuals turning to external contingencies in an

attempt to meet their psychological needs (Deci & Ryan, 2012; Ryan & Deci, 2017). Under need thwarting conditions people will also be more likely to set goals based on controlled regulatory systems, such as seeking rewards, avoiding punishment, seeking approval, or engaging in goals because they feel that 'should' (Deci & Ryan, 2012). Under need thwarting conditions people will be more likely to seek goal trajectories that may offer only indirect psychological need satisfaction, via extrinsic aspirations. The prioritisation of goals for wealth, fame, and image affects people's abilities to derive direct need satisfactions.

As need support changes throughout the lifespan it is likely goal trajectories also change. Early social contexts are fundamental in supporting integrated functioning. The capacity to continue to move toward optimal integrated functioning is also influenced by proximal and distal social contexts across the lifecourse (Ryan & Deci, 2017). One might start off intrinsically oriented because of natural tendencies and experiences of need support, but those early experiences may not enduringly predict intrinsic aspirations. Individuals may come to value extrinsic aspirations from varying socio-economic backgrounds in which the emphasis on obtaining wealth is borne out of deficit or abundance (Cohen & Cohen, 2013; Kasser et al., 1995; Williams et al., 2000; Zawadzka et al., 2018). In summary, SDT suggests that goals themselves may change but the tendency to orient toward intrinsic and extrinsic aspirations is reflective of broader integrative functioning influenced by social context, particularly that of early developmental periods.

The Course of Extrinsic Aspirations Across the Lifespan

There is mixed evidence regarding the stability of extrinsic aspiration orientations across time. Kasser et al. (2014) found that the importance individuals placed on financial success between the ages of 18 to 30 reduced over time. However, the measures of aspirations at each time point were not identical and the authors recommend results be interpreted with caution. Morgan and Robinson (2013) also found that both importance and

striving towards extrinsic aspirations decreased with age, when exploring mean levels of extrinsic aspirations between three age groups (young adults, midlife adults, and older adults).

Another study found extrinsic aspirations are stable over time. Kasser et al. (2014) followed US college seniors for two years post-graduation. The importance placed on financial success was stable over the two years. While a period of two years may not reflect a period of large developmental change, post-college pathways do represent an important transitional period comprising considerable within-person development and change.

Conversely, a study by Gouveia et al. (2015) suggested that aspirations such as power, prestige, and success are higher in late adulthood compared to middle adulthood, suggestive of a mean level increase in extrinsic aspirations between middle and late adulthood. Although, the authors concluded that the small effect sizes limited the conclusions drawn about the influence of age on values (Gouveia et al., 2015). Another limitation that has been identified amongst several cross-sectional studies of extrinsic aspiration development is that cohort effects cannot be ruled out.

Other research has explored how the related concept of materialism changes over the lifespan. Jaspers and Pieters (2016) found that materialism has different trajectories depending on the type of materialism. Three types of materialism were tracked over time, including acquisition as the pursuit of happiness, possession defined success, and acquisition centrality. Materialism as the pursuit of happiness was defined as the belief that possessions are essential to life satisfaction and was not found to change with age. Possession defined success, in which possessions are believed to be a marker of success was found to have a curvilinear trajectory across time. Possession-defined success is highest in young adulthood, sharply declines in mid-adulthood, and rises again in late adulthood. Acquisition centrality, defined as the placement of possessions at the centre of one's life because they serve as a

means of enjoyment and luxury, was also found to have a curvilinear trajectory across time, with a slower decline from young to middle adulthood. Such findings suggest that the trajectories of materialism as a marker of success or a means of enjoyment or luxury are not stable across time. Jaspers and Pieters (2016) suggest that this may be because individuals adapt their goals to changing opportunities and limitations across the lifespan relating to work, finances, already fulfilled goals, and self-esteem. In contrast, materialism as the pursuit of happiness was found to hold a stable trajectory across time. Materialism for the pursuit of happiness is conceptually similar to extrinsic aspiring because there is an element of seeking psychological well-being via external contingencies. Therefore, Jaspers and Pieters' (2016) findings suggest that extrinsic aspirations may be stable.

Research suggests that the tendency to strive toward extrinsic aspirations could occur in context of

The Course of Intrinsic Aspirations Across the Lifespan

Amongst the SDT literature, only one study was identified that explored the trajectory of intrinsic aspirations longitudinally (Sheldon, 2005). Sheldon (2005) found that college students demonstrated an increase in intrinsic aspirations from Freshman Year to Senior Year. Further analysis of individual domains indicated that valuing affiliation significantly increased over this time. However, there was no change in valuing personal growth and community contribution. Other research has explored the trajectory of benevolence and universalism over time and found that such values increase with age (Schwartz, 2007).

Of the cross-sectional studies, Morgan and Robinson (2013) found that the importance of intrinsic aspirations declined with age, while intrinsic aspiring increased with age. In addition, the relative importance of intrinsic to extrinsic aspirations was found to increase with age (Morgan & Robinson, 2013). Another cross-sectional study found that intrinsic value orientation relative to extrinsic value orientation increased with age (Sheldon

& Kasser, 2001). The literature suggests that the striving of intrinsic aspirations is likely to increase with age, particularly in relation to extrinsic aspirations.

Gender, SES, and Early Need Support Environments as Predictors of Aspirations

Evidence suggests that gender plays a role in the extent to which people value and pursue intrinsic or extrinsic aspirations. Males have been found to be higher in extrinsic aspirations than females (Kasser & Ryan, 1993). Whereas, females tend to exhibit higher intrinsic aspirations than males (Kasser et al., 1995; Kasser & Ryan, 1996; Rijavec et al., 2011). Morgan and Robinson (2013) found that males may also vary in their degree of intrinsic aspiring across different life stages. Males' intrinsic aspirations rapidly declined between young adulthood and mid-life but increased again between mid-life and older adulthood. Morgan and Robinson (2013) suggest males may have a sharper decline in intrinsic aspirations because mid-life has been found to be more of a time of transition compared to females who experience more transitions in early adulthood. Mid-life was suggested to be a time in which more health related concerns arise, and there is less opportunity to pursue other ambitions.

Several studies suggest that people with low SES may focus on extrinsic aspirations relative to intrinsic ones (Cohen & Cohen, 2013; Kasser et al., 1995). Financial hardship also predicts the importance individuals place on extrinsic aspirations (Kasser et al., 2014). Kasser et al. (2014) found that the relative importance of financial success increased across a six-month period after Iceland experienced significant economic difficulties. Such findings suggest that SES could impact the relative importance individuals place on extrinsic and intrinsic aspirations.

Research also suggests that education is positively linked to intrinsic aspiring. Murdock (2013) found that parents with higher levels of education were more likely to promote intrinsic aspirations to their children. Sheldon (2005) also found that as students

progressed from Freshman to Senior year, intrinsic aspirations increased and extrinsic aspirations decreased. Based on the literature I expect that higher levels of education will be positively associated with individuals' intrinsic aspirations.

The meta-analysis I conducted in Chapter 5 highlighted how developmental experiences play a role in the types of aspirations that individuals orient toward. Individuals who experienced need support were higher in intrinsic aspirations (Ahn & Reeve, 2020; Chew & Wang, 2010; Lekes et al., 2010; Nishimura et al., 2021). Whereas, individuals who experienced psychological need thwarting or had parents who highly valued extrinsic aspirations, were higher in extrinsic aspirations (Bredehoft & Ralston, 2008; Costa et al., 2020; Roman et al., 2015; Sheldon et al., 2003). We expect that markers of a need supportive environments such as warmth, autonomy support, and structure will foster individuals' intrinsic aspirations as children and into adulthood. I also expect that need thwarting environments will contribute to greater extrinsic aspirations as children and into mid-life.

The Impact of Intellectual Ability and Written Expression on Naturally Occurring Language

Children with higher intellectual abilities, or strong verbal abilities may be more likely to write essays that are rich in content and detail than those with lower intellectual ability or difficulties with verbal expression (Willig, 2001). The ability to express oneself effectively through writing may inflate the number of aspirations being coded in their essays. This could be attributed to an increased capacity to discuss various aspects of life and articulate their goals more comprehensively. However, to optimise inclusion of a range of intellectual and verbal abilities in understanding intrinsic and extrinsic aspirations, essays varying in quantity and quality of content should still be included as much as possible to optimise the applicability of findings to the broader community. Essays were only excluded if the meaning of the text was not discernable. Analysis was conducted in order to determine

whether writing a longer essay, or having a higher IQ impacted the number of intrinsic and aspiration counts. Intellectual ability and essay word count were also used as control variables when exploring the stability over time intrinsic and extrinsic aspirations over time. I predicted that higher intellectual ability and essay word count would be positively associated with intrinsic and extrinsic aspirations. I predicted that intrinsic and extrinsic aspirations would still demonstrate stability over time even when controlling for intellectual ability and essay word count because an individual's expression of goals that are important to them can still be meaningful, even if expressed with fewer words.

Measuring Aspirations Over Time

To track children's aspirations over time, researchers have looked to large national longitudinal datasets such as the British Household Panel Survey (BHPS) (e.g. Croll, 2008), the Longitudinal Study of Young People in England (LSYPE) (e.g. Gutman & Schoon, 2012), the National Child Development Study (NCDS) (e.g. Ashby & Schoon, 2010; and the Youth Cohort Study (e.g. Yates et al., 2011). Such datasets have either captured children's aspirations broadly or captured specific career aspirations in childhood and adolescents. The NCDS dataset has the characteristics consistent with my interest in the longitudinal link between children's intrinsic and extrinsic aspiration orientations and mid-life aspiration orientation because it measured participants' aspirations at age 11 and age 50, allowing for the stability of intrinsic and extrinsic aspiration orientations to be explored across two time points.

Several studies have analysed the NCDS dataset to better understand the aspiration essays written by 11 year olds and the impacts for well-being (Ashby & Schoon, 2010; Dodgeon et al., 2020; Elliott et al., 2007). Analysis of the NCDS has so far included a general content analysis of the children's essays at 11 years old, an analysis of childhood predictors of well-being, and a small qualitative retrospective analysis of participants' career aspirations

and links to well-being. However, no research has conducted a content analysis using the GCT framework to identify intrinsic and extrinsic aspiration orientations and track their stability between age 11 and age 50. Analysing aspirational data in the framework of GCT is important because it provides more specific information about the impact that types of goals have on well-being.

A review of the literature confirms that the stability of aspirations over time is an understudied area, with little longitudinal research exploring how intrinsic and extrinsic aspirations track over larger periods of time. This study would be the first to evaluate the predictive ability of the aspiration orientation present at age 11 of aspiration orientation in mid-life at age 50. This is important because examining goal trajectories over larger periods of times provides greater insight into the longer term course of goal orientations, which informs the promotion of optimal goal setting and well-being.

Aims

The chapter aimed to determine whether intrinsic and extrinsic aspiration orientations at childhood predict aspiration orientations later in mid-life. The current chapter will specifically test whether aspiration orientations (intrinsic, or extrinsic) at age 11, predict aspiration orientation at age 50. Based on the identified areas for further research the current chapter also aims to evaluate how individual and developmental differences impact aspiration trajectories from age 11 to age 50.

Hypotheses

Hypothesis 1

Intrinsic or extrinsic aspiration orientation at age 11 will positively predict intrinsic or extrinsic aspiration orientation at age 50. While the content of the aspirations will surely change, I hypothesise that a childhood orientation toward intrinsic aspirations, or extrinsic aspirations, will predict a similar orientation in mid-life (Deci & Ryan, 2012; Ryan & Deci, 2017).

Hypothesis 2

Being female will predict higher levels of intrinsic aspirations at age 11 and age 50.

Hypothesis 3

Lower SES will be associated with higher levels of extrinsic aspirations at age 11 and age 50.

Hypothesis 4

Having higher levels of need supportive experiences at age 11 will positively predict intrinsic aspirations at age 50.

Hypothesis 5

Having higher levels of need thwarting experiences at age 11 will positively predict extrinsic aspirations at age 50.

Hypothesis 6

Individuals with higher intellectual ability and higher essay word counts at age 11 will have higher levels of both intrinsic and extrinsic aspirations at age 11 and age 50.

Hypothesis 7

The relationship between aspiration orientations at age 11 and age 50 will remain statistically significant even after controlling for gender, SES at age 11, essay word count at age 11, and intellectual ability at age 11.

Method

Participants

The current study consisted of a sub-sample of 3845 individuals, who participated in the National Child Development Study (NCDS) in Britain, with data first collected from birth in a single week of 1958. The NCDS was originally designed as a single wave Perinatal Morality Survey and started with 17,000 participants (Power & Elliott, 2006). The benefits of continuing to track such a large sample of a National Cohort were soon realised and funding has permitted a range of data collection to occur across ongoing sweeps. There has now been sweeps of data collection spanning from ages 7, 11, 16, 23, 33, 42, 46, 50 and is still ongoing. Data includes information collected from parents, teachers, and children and involves a range of measures and assessments to capture health, education, social development and a range of outcomes variables across their lifespan.

The sweeps of interest for the current chapter include when the participants were age 11 and age 50. These were the only two time-points in which participants were asked to provide qualitative information about how they imagine their life in the future. A total of 13,669 participants completed an essay when they were 11 years old, in which the majority of cases were written in April, May or June of 1969. Of the participants who completed the essays, 47.5% were at a state junior school, 45.6% were attending a combined junior and infant school, 0.8% of the children were at secondary school, 3.9% were attending an independent school and 1.1% a school for all ages and 1% at a special school (Elliott et al., 2007). Some features about the era in which the essays were written, include the end of the economic boom in Britain, divorce rates were increasing rapidly but still relatively low and parents of children were likely to have grown up during the Second World War (Elliott et al., 2007).

Measures

Aspirations

Intrinsic and extrinsic aspirations were in the form of count data derived from qualitative data. Intrinsic and extrinsic aspirations in the form of count data have been left in their original non-standardized metric so that interpretation remains grounded in the count values obtained from the qualitative data. The qualitative data analysed included essays that participants completed at two different time points. At time 1, 11 year old participants were given 30 minutes to provide a written response to the question 'Imagine you are now 25 years old. Write about the life you are leading, your interests, your home life and your work at the age of 25.' At time 2, 50 year old participants were 'Imagine that you are now 60 years old...please write a few lines about the life you are leading (your interests, your home life, your health and well-being and any work you may be doing)'. The thematic coding system was utilised to analyse the qualitative data and calculate intrinsic and extrinsic relative intrinsic and extrinsic centrality.

Thematic Coding System. Intrinsic and extrinsic aspirations were measured using the thematic coding system created and validated in Chapter 2 to code qualitative content based on key themes of aspiration domains (wealth, fame, image, personal growth, affiliation, physical fitness, community involvement) from the Aspiration Index (Kasser & Ryan, 1993, 1996, 2001). The thematic system involves counting the presence of three key themes from each of the seven aspiration domains found in the Aspiration Index. There is a maximum of three counts a participant may receive for any given aspiration domain based on the presence or absence of the three key themes for each domain. By only coding for the three themes, the thematic system reduces the possibility of count inflation across domains and ties closely to the key themes seen in the Aspiration Index. The three themes were developed by evaluating the items on the Aspiration Index. As an example, the items on the Aspiration Index for the

domain of wealth include “To be a very wealthy person ”, “To have many expensive possessions”, “To be financially successful”, “To be rich” and “To have enough money to buy everything that I want”. The key themes of these items centre around money, possessions and the idea of seeking excess wealth and possessions. The three themes selected for the wealth domain for the thematic system include one count allocated if there was a mention of money, one count allocated if there was a mention of at least one possession they desired and one count allocated if there was evidence of content that the individual desired to be particularly wealthy and/or have many possessions. A copy of the thematic coding system can be found in Appendix A. Total intrinsic and extrinsic scores were calculated by tallying the counts across intrinsic and extrinsic domains respectively. An example of the thematic coding scheme applied to essays written by 11 year olds with an extrinsic aspiration orientation can be found in Figure 4, and with an intrinsic aspiration orientation in Figure 5. A suggestion that arose from my mid-candidature review was to consider the reasons why individuals aspire toward wealth, and whether the motivation is from a place of deficit or abundance. An additional code was created to identify cases in which it was clear that wealth was being pursued for reasons of deficit, abundance, or abundance out of deficit. An example of these nuanced wealth codes can be found in Appendix B. The wealth specifier code was primarily created in order to explore whether valuing wealth out of the context of deficit (i.e. to get out of financial trouble), abundance (i.e. become a millionaire), or deficit out of abundance (i.e. to win the lotto to be able to pay all of the bills) makes a difference to the levels of well-being people experience. I considered conducting further exploratory analysis regarding the stability of the different types of wealth pursuits over time, however, the incidences of the wealth specifier levels across the two available waves of aspiration data was underpowered to warrant such exploratory analysis. Therefore, analysis and discussion

pertaining to the wealth specifier is found in Chapter 4 which relates to the link between aspiration orientations and well-being.

In the development of the tool, we engaged in regular consultation and meetings to ensure the developmental appropriateness for childhood language. Developmental considerations were made for the cohort at different time points across the lifespan. For example, aspirations for health at age 11 may be expressed by the importance of staying healthy through sport, whereas, aspirations for health at 50 may centre around maintenance of sufficient health characterised by little deterioration in future years.

Figure 4

Thematic System Applied to Age 11 Sample Essay Demonstrating Extrinsic Orientation

I would like to be a pilot. I have got a car that cost me XXXXXX. I also have a luxury boat. I live out in the country. The house cost XXXX30,000. I am married and have a boy and a girl. I also have a private plane which cost XXXXXX,XXX. We go to the boat every other weekend. I get paid XXXXXX a week. I love wearing fashionable clothes.

	Wealth			Fame *	Image			Personal Growth			Affiliation			Community			Physical		
ID	Money	Posession	Many possessions/ mention of money	1 to 3	Desirable appearance	Avoid signs of aging	Others comment on attractiveness	Skill-building	Volition	Meaning	Non-romantic	Romantic	Closeness/ quality	Acts of service	Charitable donations	Making a global difference	Physically active	Physically fit/ health	Avoid illness/ maintain health
XXXXXX	1	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0

Wealth	Fame	Image	Personal Growth	Affiliation	Community Involvement	Physical Health
3	0	1	0	2	0	0
Extrinsic			**Intrinsic**			
4			2			

Figure 5

Thematic System Applied to Age 11 Sample Essay Demonstrating Intrinsic Orientation

When I am 25 I will be married and have five children. Me and my husband get along well and are very happy together. We will have a house of our own. We will have a garden and grow things like herbs and fruit. My job is a hairdresser, I like it a lot. I sometimes donate money to charity to help sick children.

	Wealth			Fame *	Image			Personal Growth			Affiliation			Community			Physical		
ID	Money	Posession	Many possessions/ mention of money	1 to 3	Desirable appearance	Avoid signs of aging	Others comment on attractiveness	Skill-building	Volition	Meaning	Non-romantic	Romantic	Closeness/ quality	Acts of service	Charitable donations	Making a global difference	Physically active	Physically fit/ health	Avoid illness/ maintain health
XXXXXX	0	1	0	0	0	0	0	0	1	0	1	1	1	0	1	0	0	0	0

Wealth	Fame	Image	Personal Growth	Affiliation	Community Involvement	Physical Health
1	0	0	1	3	1	0
Extrinsic			**Intrinsic**			
1			5			

Relative Centrality of Aspirations. Relative centrality helps to determine the relative importance people place on intrinsic and extrinsic aspirations in relation to their overall aspiration level (Kasser & Ryan, 1993, 1996). Relative intrinsic and extrinsic centrality scores, involves subtracting the mean number of total aspirations from the mean number of intrinsic or extrinsic aspirations for each participant. For example, an individual with 5 intrinsic counts and 2 extrinsic counts would have a mean intrinsic score of 1.25 (5 intrinsic counts divided by 4 intrinsic domains), a mean extrinsic score of 0.5 (2 extrinsic counts divided by 3 extrinsic domains), and mean total aspiration score of 1 (7 counts divided by 7 intrinsic domains). Their relative intrinsic centrality score would be 0.25 (1.25 - 1). Their relative extrinsic centrality score would be -0.5 (0.5-1). I used relative intrinsic centrality scores to determine whether the tendency to prioritise intrinsic aspirations in the broader pattern of general aspiring at age 11, predicted the tendency to do so at age 50.

SES

A range of variables were measured at baseline and different times in childhood in regard to socioeconomic data of the child and their family. Variables used to measure SES included whether father went past minimum age of education and fathers' social class. The SES variables were analysed separately and not as an index.

Early Need Supporting and Thwarting Environments

A range of variables were measured at baseline and different times in childhood regarding data about child and family interactions, and quality of relationships. I used SDT terms pertaining to need supportive and need thwarting environments to guide the selection and grouping of relevant parenting variables. However, I note that the parenting variables are not perfect proxies to the theoretical parenting constructs seen in SDT due to the limitations of working with variables from a pre-collected database. Variables that looked at the concept of parent involvement at age 7 included: how often mother reads to their child, how often

father reads to their child, outings with mother, fathers involvement in the management of their child, parents' initiative to discuss their child with the teacher, mother's interest in child's education, father's interest in child's education. Variables that measured parent involvement at age 11 included: father's role in management of their child. Variables that reflect thwarting of autonomy at age 16 include parent reports and self report of arguments about who their child's friends are, how the child dresses and does their hair, the places their child visits in their own time, and homework. Higher scores reflected that parents had a strong opinion about what the child 'should' do in each of these domain. The autonomy thwarting items were combined to form an index. Variables that measured quality of relationship with parents included self-reported ratings of how well the child gets on with their mother and how well the child gets on with their father.

Procedure

The essays were kept in two folders, randomly separated into batches containing 1000 age 11 essays and 1000 age 50 essays. The essays were randomly assigned to one of two coders trained in the thematic coding system. Each coder had a list of essays and a coding sheet with matching IDs and entered the present thematic themes for each essay into the coding sheet.

Data Analysis

All analysis was done in R (Version 4.1.0; R Core Team, 2021). Aspirations were tabulated as count data. To investigate the stability of aspirations over time, I evaluated the aspiration data in the form of intrinsic and extrinsic counts, as well as intrinsic and extrinsic centrality. For the count data, I ran poisson linear regression models to analyse how well intrinsic aspiration counts at age 11 predict intrinsic aspiration counts at age 50. I used the same approach to analyse how well extrinsic aspirations counts at age 11 predict extrinsic aspiration counts at age 50. Given coefficients from the poisson linear regressions were

unstandardized, statistically significant results were interpreted in regards to the magnitude of the effect in relation to the meaning of the units of aspiration counts. As poisson regression employs a log link function, the coefficients represent the change in the log of the expected count for a one-unit change in the predictor variable. To enhance the interpretability of the findings, the ggeffects package (Lüdecke, 2018) was utilised to generate predicted mean counts at age 50, based on counts at age 11. Funder and Ozer (2019) emphasise the importance of interpreting effect sizes in meaningful ways, especially when metrics are in their original form. Funder and Ozer (2019) highlight how in research of individual differences, even small differences in traits over time can meaningfully influence a person's life in small cumulative ways. As such, I consider differences of even one additional intrinsic count in an individual's life as having a substantive impact on their life, signifying a higher likelihood of pursuing a greater breadth of intrinsic goals in domains of a meaningful relationship, giving to the community, looking after their physical health, or striving to grow in areas that are personally meaningful to them.

I used a linear regression to analyse how the tendency to prioritise intrinsic aspirations in the broader pattern of aspiring at age 11 predicts the tendency to prioritise intrinsic aspirations in the border pattern of intrinsic aspiring at age 50. Relative intrinsic centrality scores, were calculated by subtracting the mean number of total aspirations from the mean number of intrinsic aspirations for each participant. Differences in aspiration counts and aspiration centrality across demographics were also explored using poisson regression and linear regression.

Results

The subsample included in the analyses consisted of 3845 individuals. The mean number of intrinsic and extrinsic counts for total and individual aspiration domains at age 11 and age 50 can be found in Table 4.

Table 4

Means, Standard Deviations, Range of Intrinsic and Extrinsic Counts at Age 11 and Age 50

	Age 11 Mean Counts (SD)	Age 50 Mean Counts (SD)	Age 11 Range	Age 50 Range
Intrinsic Aspirations	2.25 (1.14)	2.85 (1.46)	0 – 9	0 – 10
Personal Growth	0.37 (0.54)	0.39 (0.54)	0 – 3	0 – 3
Affiliation	1.40 (0.76)	1.26 (0.85)	0 – 3	0 – 3
Physical Health	0.41 (0.52)	1.05 (0.73)	0 – 3	0 – 3
Community	0.07 (0.29)	0.15 (0.39)	0 – 3	0 – 2
Extrinsic Aspirations	1.38 (1.33)	0.43 (0.71)	0 – 7	0 – 5
Wealth	1.10 (1.05)	0.40 (0.65)	0 – 3	0 – 3
Image	0.09 (0.29)	0.02 (0.15)	0 – 2	0 – 2
Fame	0.19 (0.64)	0.01 (0.17)	0 – 3	0 – 3

Note. Standard deviation in parentheses

Gender as a Predictor of Aspirations at Age 11 and Age 50

In the analysis of gender as a predictor of aspirations at age 11 and age 50 the metrics used were all unstandardized allowing for a direct interpretation of the raw intrinsic and extrinsic count values. I hypothesised that females would exhibit higher levels of intrinsic aspirations than males, at age 11 and age 50. The mean number of intrinsic and extrinsic aspirations counts for females and males, at age 11 and age 50 is shown in Table 5. There was a statistically significant difference between males and females for mean intrinsic aspirations counts, with females having higher levels of intrinsic aspirations than males at both age 11 ($F(1, 3809) = 117$, $p < .001$), and age 50 ($F(1, 3675) = 113.1$, $p < .001$). There was a statistically significant difference between males and females for extrinsic aspirations at age 11, with males having higher levels of extrinsic aspirations than females at age 11 ($F(1, 3809) = 104.6$, $p < .001$). There was no statistically significant difference in mean number of extrinsic counts between males and females at age 50 ($F(1, 3675) = 0.03$, $p = 0.87$).

Table 5

Mean and Standard Deviation of Counts of Intrinsic and Extrinsic Aspiration Across Gender

	Female	Male
Intrinsic aspiration age 11	2.43 (1.10)	2.04 (1.15)
Extrinsic aspiration age 11	1.18 (1.28)	1.62 (1.35)
Intrinsic aspirations age 50	3.08 (1.45)	2.58 (1.43)
Extrinsic aspirations age 50	0.43 (0.70)	0.43 (0.72)

Note. Standard deviation in parentheses

There was a statistically significant difference between males and females for mean intrinsic aspirations relative to extrinsic aspirations, with females (M = 0.21, SD = 0.49) having higher levels of relative intrinsicality than males (M = -0.03, SD = 0.48) at age 11 (F(1, 3809) = 236.8, p <.001). There was also a statistically significant difference between males and females for mean intrinsic aspirations relative to extrinsic aspirations, with females (M = 0.63, SD = 0.42) having higher levels of relative intrinsicality than males (M = 0.50, SD = 0.41) at age 50 (F(1, 3675) = 87.59, p <.001) at age 50.

SES as a Predictor of Aspirations at Age 11 and Age 50

In the analysis of SES as a predictor of aspirations at age 11 and age 50, two measures of SES were investigated: fathers' minimum leaving age and mothers' husbands' social class. These SES metrics were unstandardized, as well as intrinsic and extrinsic aspirations, allowing for direct interpretation of the raw intrinsic and extrinsic count values. I hypothesised that lower SES would be associated with higher extrinsic aspirations.

Fathers' Education

The link between fathers staying at school past the minimum leaving age and children's aspirations at age 11 was not statistically significant for intrinsic aspirations (b = 0.04,CI [-0.01, 0.09] p = 0.11) or extrinsic aspirations (b = 0.04,CI [-0.02, 0.10] p = 0.21).

The link between fathers staying at school past the minimum leaving age and child's aspirations at age 50 was positive and statistically significant for intrinsic aspirations (b = 0.10,CI [0.06, 0.15] $p < 0.01$). Those who had fathers who stayed at school past minimum leaving age had a predicted mean intrinsic count of 3.07 CI [2.96, 3.19] and those whose fathers did not stay past minimum leaving age had a predicted mean intrinsic count of 2.78 CI [2.71, 2.85]. The link between fathers staying at school past the minimum leaving age and children's extrinsic aspirations at age 50 was not statistically significant (b = 0.07,CI [-0.04, 0.19] p = 0.21).

The link between fathers staying at school past minimum leaving age and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was not statistically significant (b = 0.004, CI [-0.03, 0.04], p = 0.83).

Mothers' Husbands' Social Class

Social class was entered as an ordinal independent variable based on the categories from the GRO (1951) ranking, of I, II, III, IV, V and intrinsic counts as the outcome variable. Level V acted as the baseline in the regression (b = 0.75, p < 0.001). The results suggest that the social class level I coefficient was statistically different from the social class level V. However, upon inspection of the predicted mean levels of intrinsic aspirations at age 11 based on social class levels, there was overlap in the confidence intervals of all levels, including level V (M = 2.13, CI [1.96, 2.31]) and level I (M = 2.44, CI [2.23, 2.67]). As such, the results do not offer support for intrinsic aspirations at age 11 differing based on mothers' husbands' social class. The link between mothers' husbands' social class and extrinsic aspirations at age 11 was not statistically significant. None of the coefficients for the different levels of social class were founds to significantly differ from the baseline level V (b = 0.29, p = 0.01).

The link between social class and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was not statistically significant at the different levels of social class and the overall model was not significant ($F(4, 3507) = 2.16$, $p = 0.07$).

The results found that mothers' husbands social class effected the number of intrinsic counts individuals had at age 50. Individuals' whose mothers' husband has a social class of V had significantly less intrinsic counts at age 50 than the social class levels I, II, and III. Level V acted as the baseline in the regression ($b = 0.90$, $p < 0.001$). The results suggest that the social class coefficients for level I, level II, level III were statistically different from the social class level V. Inspection of the predicted mean levels of intrinsic aspirations at age 11 based on social class levels offered further support for these differences, including level I ($M = 3.08$, CI [2.84, 3.35]), level II ($M = 3.04$, CI [2.90, 3.19]), level III ($M = 2.87$, CI [2.80, 2.95]), level IV ($M = 2.67$, CI [2.51, 2.84]), level V ($M = 2.46$, CI [2.28, 2.66]).

There was no statistically significant difference between number of extrinsic counts at age 50 between levels of mothers' husbands' social class. Level V acted as the baseline in the regression ($b = -1.06$, $p < 0.001$). The results suggest that the social class level I coefficient was statistically different from the social class level V ($b = .38$, $p < 0.01$). However, upon inspection of the predicted mean levels of intrinsic aspirations at age 11 based on social class levels, there was overlap in the confidence intervals of all levels, including level V ($M = 0.46$, CI [0.40, 0.46]) and level I ($M = 0.35$, CI [0.28, 0.43]).

The link between social class and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 50 was statistically significant, with the baseline at level V being $b = 0.50$, CI [0.45, 0.55], $p < 0.001$. Level V was found to have a statistically significant difference in relative intrinsic aspirations compared with level I ($b = 0.10$), level II ($b = 0.12$), and level III ($b = 0.08$).

Need Supportive Environments as a Predictor of Aspirations

In the analysis of need supportive environments as predictors of aspirations, two distinct sets of predictors were examined. The first set focused on predictors of children's intrinsic and extrinsic aspirations at age 11 and included mothers' involvement and fathers' involvement at age 7. The second set investigated predictors of children's intrinsic aspirations at age 50 and involved measures of mothers' relatedness and fathers' relatedness at age 16. These predictor variables were unstandardized, along with the intrinsic and extrinsic aspiration counts, enabling direct interpretation of the raw count values. I hypothesised that need supportive environments would be associated with higher intrinsic aspirations.

Mothers' Involvement at Age 7

The link between mothers' involvement at age 7 and children's aspirations at age 11 was not statistically significant for intrinsic aspirations (b = -0.006,CI [-0.03, 0.02] p = 0.62), or extrinsic aspirations (b = -0.03,CI [-0.05, 0.00] p = 0.09).

The link between mothers' involvement at age 7 and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was not statistically significant (b = 0.01, CI [-0.01, 0.02], p = 0.34).

The link between mothers' interest in their child's education at age 7 and children's intrinsic aspirations at age 11 was positive, and statistically significant (b = 0.06,CI [0.03, 0.10] $p < 0.001$). The link between mothers' interest in their child's education at age 7 and children's extrinsic aspirations at age 11 was not statistically significant (b = 0.01, CI [-0.04, 0.05], p = 0.68).

The link between mothers' interest in their child's education at age 7 and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was positive and statistically significant (b = 0.03, CI [0.004, 0.05], $p < 0.05$), with an R^2 value of 0.001, $F(1, 3142) = 5.04$, $p < 0.05$.

Fathers' Involvement at Age 7

The link between fathers' involvement at age 7 and children's aspirations at age 11 was not statistically significant for intrinsic aspirations (b = 0.01,CI [-0.02, 0.04] p = 0.48) or extrinsic aspirations (b = 0.03,CI [-0.003, 0.07] p = 0.07).

The link between fathers' involvement at age 7 and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was not statistically significant (b = -0.01, CI [-0.03, 0.01], p = 0.37).

The link between fathers' interest in their child's education at age 7 and children's intrinsic aspirations at age 11 was positive, and statistically significant (b = 0.06,CI [0.02, 0.10] $p < 0.001$). The link between fathers' interest in their child's education at age 7 and children's extrinsic aspirations at age 11 was not statistically significant (b = 0.02, CI [-0.03, 0.06], p = 0.52).

The link between fathers' interest in their child's education at age 7 and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 11 was not statistically significant (b = 0.03, CI [-0.002, 0.05], p = 0.06).

Mother Relatedness at Age 16

The link between getting on well with their mothers at age 16 (self-reported) and children's intrinsic aspirations at age 50 was not statistically significant b = 0.02,CI [0.00, 0.05] p = 0.07. The link between getting on well with their mothers at age 16 (self-reported) and children's extrinsic aspirations at age 50 was not statistically significant b = -0.04,CI [-0.10, 0.03] p = 0.25.

The link between getting on well with their mothers at age 16 (self-reported) and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 50 was positive, and statistically significant (b = 0.02, CI [0.01, 0.04], p = 0.01), with an R^2 value of 0.002, $F(1, 2850) = 5.927$, $p < 0.05$.

Father Relatedness at Age 16

The link between getting on well with their fathers at age 16 (self-reported) and children's aspirations at age 50 was not statistically significant for intrinsic aspirations b = 0.02,CI [0.00, 0.04] p = 0.11 or extrinsic aspirations b = -0.03,CI [-0.09, 0.03] p = 0.31.

The link between getting on well with their fathers at age 16 (self-reported) and children's valuing of intrinsic aspirations relative to extrinsic aspirations at age 50 was positive, and statistically significant (b = 0.02, CI [0.001, 0.03], p = 0.03), with an R^2 = 0.001, $F(1, 2761) = 4.63$, $p < 0.05$.

Need Thwarting Environments as a Predictor of Aspirations

In exploring the influence of need thwarting environments on individuals aspirations at age 50, specific variables were examined to capture the degree of autonomy thwarting experienced by individuals at age 16 in a range of areas from the perspective of the parent, and child. To assess the overall impact of autonomy thwarting, these items were combined to create an index The parent composite consisted of variables including arguments related to the child's choice of friends, dressing style, hairstyle, places visited during their own time, and homework. The child composite consisted of variables including the perception that their parent has a strong view about their appearance and their friends. I hypothesised that need thwarting environments would be associated with higher extrinsic aspirations.

All variables were in the form of unstandardized metrics. There was a statistically significant, negative link between arguments with parents (parent-reported) at age 16 and intrinsic aspirations at age 50, b = -0.04 CI [-0.05, -0.02], p < 0.001. The link between arguments with parents (parent-reported) at age 16 and extrinsic aspirations at age 50 was not statistically significant, b = -0.01,CI [-0.05, 0.03] p = 0.62.

There was also a statistically significant negative link between arguments with parents (parent-reported) at age 16 and children's valuing of intrinsic aspirations relative to extrinsic

aspirations (b = -0.02, CI [-0.04, -0.01], $p < 0.001$), with an $R^2 = 0.005$, F (1, 2772) = 13.56, $p < 0.001$.

The link between parents having strong views concerning appearance, and friends (self-reported by adolescent) at age 16 and intrinsic aspirations at age 50 was not statistically significant, b = 0.01 CI [-0.03, 0.06], p = 0.52. There was a statistically significant, positive link between parents having strong views (self-reported by adolescent) at age 16 and extrinsic aspirations at age 50, b = 0.03,CI [0.01, 0.05] $p < 0.05$.

There was also a statistically significant negative link between arguments with parents (self-reported by adolescent) at age 16 and children's valuing of intrinsic aspirations relative to extrinsic aspirations (b = -0.01, CI [-0.02, -0.01], $p < 0.001$), with an $R^2 = 0.007$, F (1, 2705) = 21.41, $p < 0.001$.

Intellectual Ability at Age 11 as a Predictor of Aspirations at Age 11 and Age 50

There was a statistically significant, positive link between intellectual ability at age 11 and intrinsic aspirations at age 11 (b = 0.01, CI [0.004, 0.07], $p < 0.001$) but not for extrinsic aspirations at age 11, see Table 6.

Table 6

Intrinsic Counts at Age 11 Predicted by Intellectual Ability at Age 11

Intellectual Ability Age 11	Predicted Intrinsic Counts Age 11	95%CI
0	1.71	[1.59, 1.84]
10	1.81	[1.71, 1.93]
20	1.92	[1.83, 2.01]
30	2.03	[1.96, 2.10]
40	2.15	[2.10, 2.21]
50	2.28	[2.23, 2.33]
60	2.41	[2.35, 2.48]
80	2.70	[2.57, 2.85]

There was a statistically significant, positive link between intellectual ability at age 11 (b = 0.01, CI [0.01, 0.01], $p < 0.001$) and intrinsic aspirations at age 50, and extrinsic aspirations at age 50 (b = 0.01, CI [0.01, 0.02], $p < 0.001$), see Table 7 and Table 8.

Table 7

Intrinsic Counts at Age 50 Predicted by Intellectual Ability at Age 11

Intellectual Ability Age 11	Predicted Intrinsic Counts Age 50	95%CI
0	2.02	[1.89, 2.16]
10	2.17	[2.06, 2.30]
20	2.34	[2.24, 2.44]
30	2.51	[2.43, 2.59]
40	2.70	[2.64, 2.76]
50	2.90	[2.84, 2.95]
60	3.11	[3.04, 3.19]
80	3.59	[3.43, 3.76]

Table 8

Extrinsic Counts at Age 50 Predicted by Intellectual Ability at Age 11

Intellectual Ability Age 11	Predicted Extrinsic Counts Age 50	95%CI
0	0.24	[0.21, 0.29]
10	0.28	[0.24, 0.32]
20	0.31	[0.28, 0.35]
30	0.35	[0.32, 0.38]
40	0.39	[0.37, 0.42]
50	0.44	[0.42, 0.46]
60	0.50	[0.47, 0.53]
80	0.63	[0.56, 0.71]

Essay Word Count as a Predictor of Aspirations at Age 11 and Age 50

There was a statistically significant, positive link between essay word count at age 11 and intrinsic aspirations at age 11 ($b = 0.001$, CI [0.001, 0.001], $p < 0.001$), as well as extrinsic aspirations at age 11 ($b = 0.001$, CI [0.001, 0.001], $p < 0.001$), see Table 9 and Table 10.

Table 9

Intrinsic Counts at Age 11 predicted by Essay Word Count at Age 11

Word Count Age 11	Predicted Intrinsic Counts Age 11	95%CI
200	2.21	[2.16, 2.26]
300	2.44	[2.38, 2.50]
500	2.97	[2.81, 3.13]
700	3.61	[3.31, 3.94]
800	3.99	[3.59, 4.42]
1000	4.86	[4.23, 5.58]
1300	6.53	[5.39, 7.90]

Table 10

Extrinsic Counts at Age 11 predicted by Essay Word Count at Age 11

Word Count Age 11	Predicted Extrinsic Counts Age 11	95%CI
200	1.35	[1.31, 1.39]
300	1.52	[1.47, 1.56]
500	1.91	[1.79, 2.04]
700	2.40	[2.16, 2.68]
800	2.70	[2.37, 3.07]
1000	3.40	[2.86, 4.04]
1300	4.80	[3.78, 6.11]

There was a statistically significant, positive link between essay word count at age 11 and intrinsic aspirations at age 50 (b = 0.001, CI [0.001, 0.001], $p < 0.001$), as well as extrinsic aspirations at age 50 (b = 0.001, CI [0.001, 0.001], $p < 0.05$), see Table 11, and Table 12. The findings suggest that the more words children wrote in their essays at age 11, the more intrinsic counts they had at both age 11 and age 50.

Table 11

Intrinsic Counts at Age 50 predicted by Essay Word Count at Age 11

Word Count Age 11	Predicted Intrinsic Counts Age 50	95%CI
200	2.82	[2.77, 2.88]
300	2.99	[2.92, 3.06]
500	3.36	[3.20, 3.54]
700	3.78	[3.48, 4.10]
800	4.00	[3.63, 4.41]
1000	4.50	[3.95, 5.12]
1300	5.36	[4.48, 6.41]

Table 12

Extrinsic Counts at Age 50 predicted by Essay Word Count at Age 11

Word Count Age 11	Predicted Extrinsic Counts Age 50	95%CI
200	0.43	[0.41, 0.45]
300	0.45	[0.42, 0.48]
500	0.50	[0.44, 0.57]
700	0.55	[0.45, 0.68]
800	0.58	[0.45, 0.75]
1000	0.64	[0.46, 0.90]
1300	0.75	[0.47, 1.19]

Aspirations at Age 11 as a Predictor of Aspirations at Age 50

Intrinsic Aspirations

Intrinsic counts. There was a statistically significant, positive link between intrinsic aspirations at age 11 and intrinsic aspirations at age 50 ($b = 0.05$, CI [0.04, 0.07], $p < 0.001$), see Figure 6. The findings indicate that the initial count of intrinsic aspirations at age 11 can provide insights into the number of intrinsic aspirations individuals are likely to have at age 50. Table 13 shows the number of intrinsic counts at age 50 predicted by the number of intrinsic counts at age 11. The number of intrinsic counts at age 50 predicted by '0' intrinsic counts at 11 was 2.53. The number of intrinsic counts at age 50 predicted by '9' intrinsic counts at age 11 was 4.07. The presence of two additional counts is approximately 99% of the mean number of intrinsic counts ($M = 2.85$) for all participants indicating that this is a significant increase. This means that individuals who displayed a greater number of intrinsic aspirations at age 11 were more likely to continue pursuing intrinsic aspirations at age 50. It indicates a lasting inclination towards valuing personal growth, affiliation, physical health, and community giving. The links between individual domains of intrinsic aspirations between age 11 and age 50 can be found in Appendix D.

Figure 6

Scatterplot of Intrinsic Counts at Age 11 Predicting Intrinsic Counts at Age 50

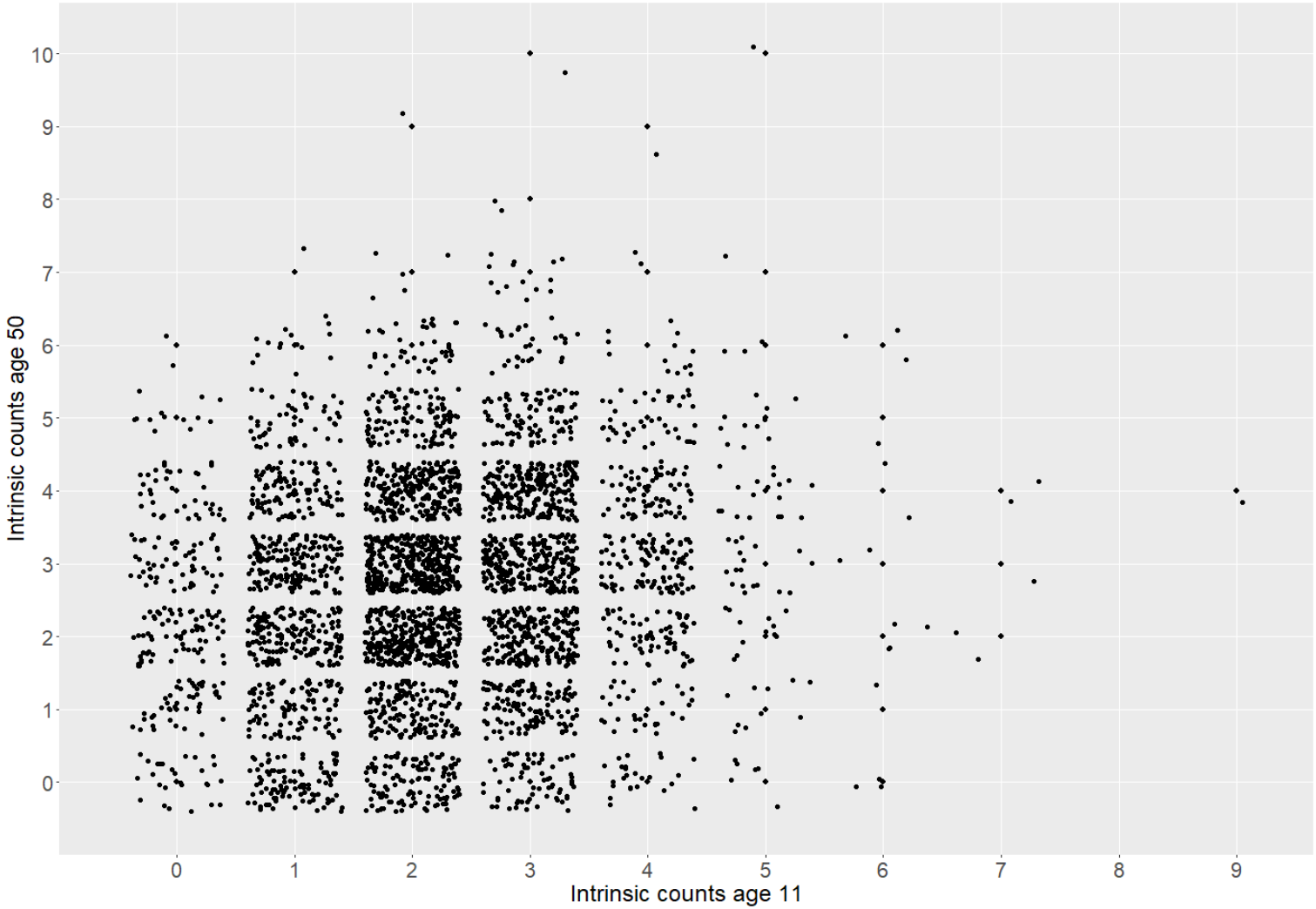


Table 13

Intrinsic Counts at Age 50 predicted by Intrinsic Counts at Age 11

Intrinsic Counts Age 11	Predicted Intrinsic Counts Age 50	95%CI
0	2.53	[2.43, 2.65]
1	2.51	[2.59, 2.75]
2	2.68	[2.76, 2.87]
3	2.86	[2.90, 3.03]
4	3.06	[3.02, 3.23]
5	3.26	[3.14, 3.46]
6	3.48	[3.26, 3.70]
9	4.24	[3.63, 4.55]

Table 14 shows the percentage and number of intrinsic counts at age 50, for each count category at age 11. Of those who had 0 intrinsic aspirations at age 11, only 3.5% continued to have 0 intrinsic aspiration counts at age 50. While 96.5% went on to have 1 or more intrinsic aspiration counts at age 50. Similarly, of those who had 1 intrinsic count at age 11, only 22.2% had 1 or less intrinsic counts at age 50, with 77.7% of individuals increasing their number of intrinsic aspirations at age 50. The increasing trend supports the notion that intrinsic aspirations increase with age but that those who mention more intrinsic aspirations at age 11 also tend to mention more intrinsic aspirations at age 50.

Table 14

Number and Percentage of Intrinsic Counts at Age 50 (per count level) for Each Intrinsic Count Level at Age 11

Intrinsic_11	*Intrinsic_50*											***Total***
	0	1	2	3	4	5	6	7	8	9	10	
0	7 3.5 %	40 19.9 %	59 29.4 %	47 23.4 %	33 16.4 %	13 6.5 %	2 1 %	0 0 %	0 0 %	0 0 %	0 0 %	201 100 %
1	50 7.5 %	98 14.7 %	171 25.6 %	174 26.1 %	108 16.2 %	50 7.5 %	15 2.2 %	1 0.1 %	0 0 %	0 0 %	0 0 %	667 100 %
2	67 5.1 %	151 11.5 %	329 25 %	365 27.8 %	247 18.8 %	109 8.3 %	40 3 %	5 0.4 %	0 0 %	1 0.1 %	0 0 %	1314 100 %
3	34 3.3 %	123 12.1 %	222 21.8 %	264 25.9 %	238 23.4 %	93 9.1 %	28 2.7 %	14 1.4 %	2 0.2 %	0 0 %	1 0.1 %	1019 100 %
4	17 4.9 %	33 9.6 %	66 19.1 %	97 28.1 %	74 21.4 %	42 12.2 %	13 3.8 %	2 0.6 %	0 0 %	1 0.3 %	0 0 %	345 100 %
5	2 2.6 %	10 13 %	12 15.6 %	19 24.7 %	18 23.4 %	11 14.3 %	3 3.9 %	1 1.3 %	0 0 %	0 0 %	1 1.3 %	77 100 %
6	3 18.8 %	1 6.2 %	4 25 %	2 12.5 %	2 12.5 %	1 6.2 %	3 18.8 %	0 0 %	0 0 %	0 0 %	0 0 %	16 100 %
7	0 0 %	0 0 %	2 40 %	1 20 %	2 40 %	0 0 %	0 0 %	0 0 %	0 0 %	0 0 %	0 0 %	5 100 %
9	0 0 %	0 0 %	0 0 %	0 0 %	1 100 %	0 0 %	0 0 %	0 0 %	0 0 %	0 0 %	0 0 %	1 100 %
Total	180 4.9 %	456 12.5 %	865 23.7 %	969 26.6 %	723 19.8 %	319 8.8 %	104 2.9 %	23 0.6 %	2 0.1 %	2 0.1 %	2 0.1 %	3645 100 %

χ^2=150.834 · df=80 · Cramer's V=0.072 · Fisher's p=0.000

Intrinsic Centrality. Intrinsic centrality helps to determine the relative importance people place on intrinsic aspirations in relation to their overall aspiration level (Kasser & Ryan, 1993, 1996). There was also a positive, statistically significant relationship, between relative intrinsic centrality at age 11 and relative intrinsic centrality at age 50 (β = 0.06, 95% CI [0.03, 0.09] $p < 0.01$). Intrinsic centrality at age 11 and age 50 were both in the form of z-scores.

Extrinsic Aspirations

Extrinsic counts. Extrinsic aspirations at 11 were not found to predict extrinsic aspirations at age 50, (b = 0.02, , 95% CI [-0.02, 0.06], p = 0.30), see Table 15. A scatterplot of extrinsic counts at age 11 predicting extrinsic counts at age 50 can be seen in Figure 7.

Figure 7

Scatterplot of Extrinsic Counts at Age 11 Predicting Extrinsic Counts at Age 50

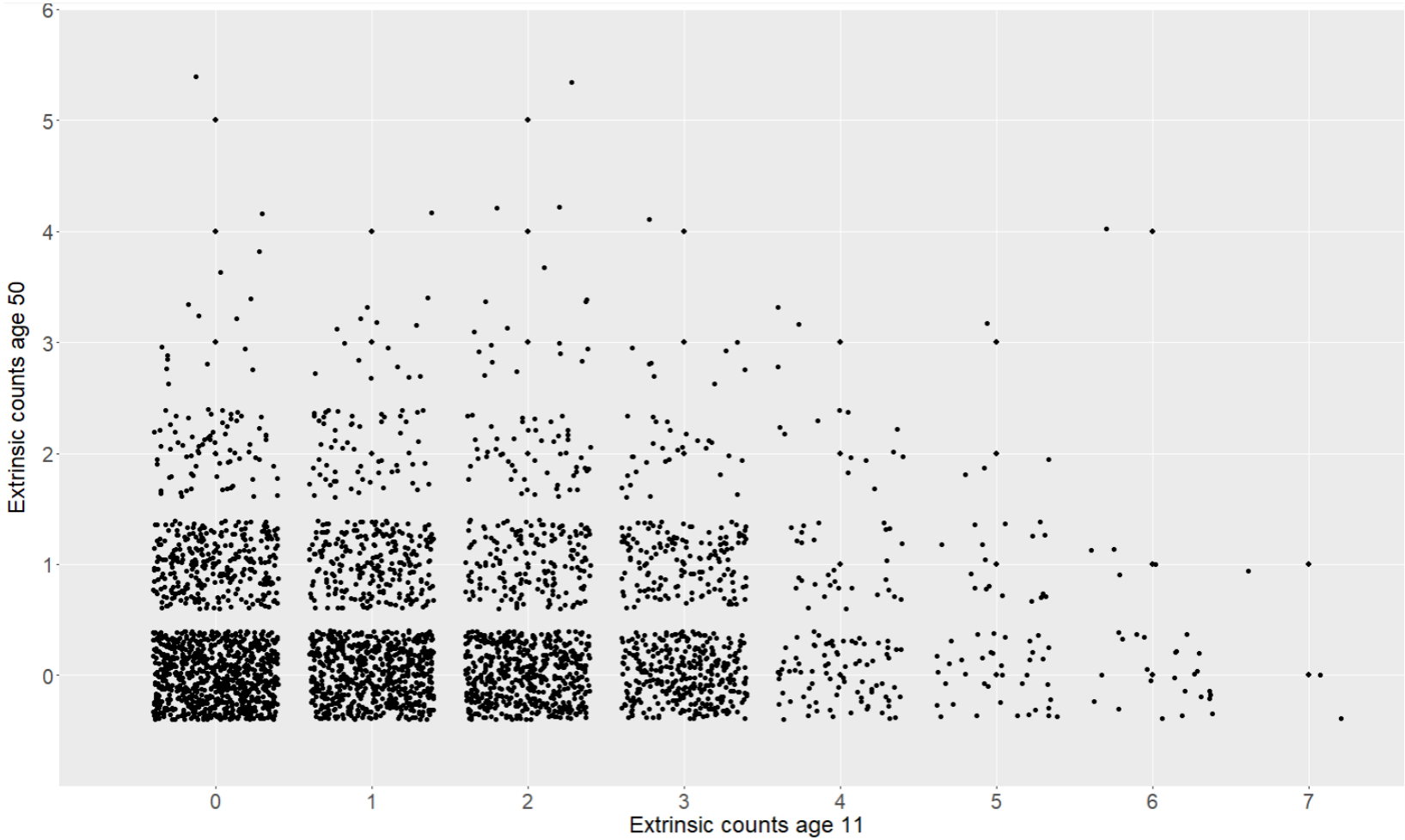


Table 15

Extrinsic Counts at Age 50 Predicted by Extrinsic Counts at Age 11

Extrinsic Counts Age 11	Predicted Extrinsic Counts Age 50	95%CI
0	0.42	[0.39, 0.45]
1	0.43	[0.41, 0.45]
2	0.44	[0.42, 0.46]
3	0.45	[0.41, 0.48]
4	0.46	[0.41, 0.51]
5	0.47	[0.40, 0.54]
6	0.47	[0.40, 0.56]
7	0.48	[0.39, 0.60]

Table 16 shows the percentage and number of extrinsic counts at age 50, for each count category at age 11. Of those who had 0 intrinsic aspirations at age 11, 67.9% continued to have 0 intrinsic aspiration counts at age 50. However, 0 counts at age 50 held the highest percentage of individuals regardless of the number of extrinsic counts at age 11. The links between individual domains of extrinsic aspirations between age 11 and age 50 can be found in Appendix D.

Table 16

Number and Percentage of Extrinsic Counts at Age 50 (per count level) for each Extrinsic Count Level at Age 11

Extrinsic_11	*Extrinsic_50* 0	1	2	3	4	5	***Total***
0	815 67.9 %	296 24.6 %	74 6.2 %	12 1 %	3 0.2 %	1 0.1 %	1201 100 %
1	621 65.9 %	246 26.1 %	60 6.4 %	14 1.5 %	1 0.1 %	0 0 %	942 100 %
2	522 68.4 %	170 22.3 %	53 6.9 %	14 1.8 %	3 0.4 %	1 0.1 %	763 100 %
3	329 63.4 %	152 29.3 %	29 5.6 %	8 1.5 %	1 0.2 %	0 0 %	519 100 %
4	82 64.6 %	30 23.6 %	12 9.4 %	3 2.4 %	0 0 %	0 0 %	127 100 %
5	39 63.9 %	18 29.5 %	3 4.9 %	1 1.6 %	0 0 %	0 0 %	61 100 %
6	24 82.8 %	4 13.8 %	0 0 %	0 0 %	1 3.4 %	0 0 %	29 100 %
7	2 66.7 %	1 33.3 %	0 0 %	0 0 %	0 0 %	0 0 %	3 100 %
Total	2434 66.8 %	917 25.2 %	231 6.3 %	52 1.4 %	9 0.2 %	2 0.1 %	3645 100 %

χ^2=36.209 · df=35 · Cramer's V=0.045 · Fisher's p=0.356

The Link Between Intrinsic Counts at Age 11 And Intrinsic Counts at Age 50, While Controlling for Essay Word Count Age 11, Intellectual Ability, and Gender

There was a statistically significant, positive link between intrinsic aspirations at age 11 and intrinsic aspirations at age 50 (b = 0.02, $p < 0.05$), even after controlling for age 11 essay word count, intellectual ability, gender, and SES.

The Link Between Extrinsic Counts at Age 11 And Extrinsic Counts At Age 50, while Controlling for Essay Word Count Age 11, Intellectual Ability, SES and Gender

There was not a statistically significant link between extrinsic aspirations at age 11 and extrinsic aspirations at age 50 ($b = 0.02$, $p = 0.45$), even after controlling for age 11 essay word count, intellectual ability, gender, and SES.

The Link Between Intrinsic Centrality at Age 11 And Intrinsic Centrality at Age 50, while Controlling for Word Count Age 11, Intellectual Ability, SES, and Gender

There was a positive, statistically significant relationship, between relative intrinsic centrality at age 11 predicting relative intrinsic centrality at age 50 ($b = 0.05$, 95% CI [0.02, 0.09] $p < 0.01$), even after controlling for age 11 essay word count, intellectual ability, and SES. However, when gender was also controlled for in the same model, the relationship between relative intrinsic centrality at age 11 and age 50 was no longer statistically significant ($b = 0.02$, 95% CI [-0.01, 0.06] $p = 0.24$). Further analyses were conducted to explore the role of gender, given the link between intrinsic centrality at age 11 and age 50 was no longer statistically significant when controlling for gender. I ran a linear regression model to determine whether there was an interaction effect with gender entered as a moderator. The coefficient for the interaction term between intrinsic centrality at age 11 and gender was not statistically significant, indicating that gender does not moderate the relationship between intrinsic centrality at age 11 and age 50 ($b = 0.04$, 95 % CI [-0.03, 0.11] $p = 0.22$). However, given that gender is a predictor of intrinsic centrality at age 50, consideration should still be given to the finding that females have higher levels of intrinsic centrality than males at age 50.

Discussion

In Chapter 3 I examined whether aspirations at childhood predict aspirations at mid-life. The results inform how to best support individuals' goal setting in life to optimise well-being. I found partial support for my hypothesis that aspirations at age 11 predict aspirations at age 50 (Hypothesis 1). Intrinsic aspirations at age 11 predicted intrinsic aspirations at age 50. Extrinsic aspirations at age 11 did not predict extrinsic aspirations at age 50. A positive link also existed between relative intrinsic centrality at age 11 and relative intrinsic centrality at age 50, which existed even after controlling for gender, SES at age 11, essay word count at age 11, and cognitive ability at age 11 (Hypothesis 7).

Trajectory of Intrinsic Aspirations

The finding that intrinsic aspirations at age 11 predict intrinsic aspirations at age 50 suggests that there is some level of stability in individuals' intrinsic aspirations over time. That is, even though the exact content of a person's intrinsic aspirations will change over the lifespan, the tendency to set intrinsic goals may already be developing in childhood and has some capacity to shape how intrinsically oriented an individual will be at mid-life. Given that no previous research has examined the stability of intrinsic aspirations across such a large breadth of time, I have drawn on GCT principles to explain possible reasons for the results regarding within-person stability of intrinsic aspirations.

GCT views the function of goals within a broader mechanism of integrated functioning, with intrinsic aspirations signifying greater integrated functioning (Deci & Ryan, 2012; Ryan & Deci, 2017). Signs of greater integrated functioning at childhood could indicate that an individual has been equipped with methods to interact with the world around them to optimise need satisfaction. For example, higher levels of intrinsic aspirations at age 11 may signify greater integrated functioning, and capacity to organise one's goals to optimise ongoing and direct need satisfaction.

Given that goals are considered a second-tier or mid-level personality construct, perfect stability is unlikely, and are best understood in conjunction with environmental influences (Emmons, 1989; McAdams, 1996). Social contexts are influential across the lifespan, and early proximal social contexts are especially fundamental in supporting or thwarting optimal functioning and the goals people set (Deci & Ryan, 1985). The finding that intrinsic aspirations hold some within-person stability from childhood into mid-life, suggests that early development could be fundamental in laying the foundations for and shaping intrinsic aspirations. Further support is offered by the finding that need supportive parenting at 16 was predictive of individuals having higher levels of intrinsic aspirations relative to extrinsic aspirations. In conjunction, need thwarting parenting at age 16 were found to be predictive of lower levels of intrinsic aspirations relative to extrinsic aspirations. Experiencing need support in early development provides foundations that may enhance an individual's capacity to prioritise intrinsic aspirations early in life and into mid-life. Experiencing autonomy support, warmth, and structure in the early stages of life could, therefore, be crucial in facilitating an individual's capacity to utilise intrinsic aspirations for ongoing psychological need satisfaction.

Trajectory of Extrinsic Aspirations

The finding that extrinsic aspirations at age 11 did not predict extrinsic aspirations at age 50 suggests that extrinsic aspirations may be more variable over time. Extrinsic aspirations decreased with age, which is in line with existing research (Kasser et al., 2014; Morgan & Robinson, 2013). However, the lack of predictive ability of age 11 aspirations suggests there may be little within-person stability of extrinsic aspirations between age 11 and 50.

Previous research offered mixed support for the stability of extrinsic aspirations over time (Gouviea et al., 2014; Jaspers & Pieters, 2016; Kasser et al., 2014; Morgan & Robinson

2013). The lack of stability within people's extrinsic aspirations could be related to the nature and function of extrinsic aspirations over time.

The nature of extrinsic goals may be more fragile in that success in extrinsic goal domains depends on external validation over which individuals have less control. Expectations about what represents "enough" money, or in how status and fame manifest, or in social standards of beauty will inevitably vary over time. Perhaps the fleeting nature of extrinsic goals means that people may shift their focus and investment in extrinsic goals, between different extrinsic domains or in quantity.

The function of extrinsic aspirations over time may also vary. People might use external contingencies such as fame, image, and wealth for different purposes at different points in the lifespan. Jaspers and Pieters (2016) found that three different reasons behind the pursuit of materialistic goals had varying trajectories over time. Materialism for enjoyment and luxury as well as possession-defined success were found to not be stable over the lifespan. In comparison, acquisition as the pursuit of happiness—in which materialism is at the centre of individuals' life satisfaction—was more stable. If a person was high on materialism for the pursuit of happiness in early adulthood, they were similarly high in middle and late adulthood. Perhaps extrinsic pursuits with the aim of achieving happiness are the most stable because they reflect processes of need substitution. Using extrinsic aspirations for the pursuit of happiness reflects an underlying tendency of trying to satisfy need frustration in less optimal ways, leading to consistent need frustrated states.

Another possibility might be that themes of extrinsic aspirations found in the language of 11 year olds is not a valid representation of the tendency to truly orient toward extrinsic aspirations. Perhaps dreams of 'fame' as a child do not equate to the desire for 'fame' seen in adulthood, impacting the construct validity. For example, it could be possible that children use more amplified or exaggerated language that could lead to an overestimated portrayal of

extrinsic aspiring. Alternatively, the language that might signify materialistic pursuit with the purpose of need substitution could be difficult to capture.

Qualitative coding of individuals' goals may permit a more nuanced assessment of the long-term outcomes of enjoying possessions compared to when happiness is contingent on the pursuit of acquisitions. For example, developing a way of detecting language in children who aspire for wealth, image or fame with the purpose of need substitution would offer a more meaningful and valid representation of extrinsic aspirations. This would be helpful because a more accurate detection of extrinsic aspirations would help to identify and support individuals who are at greater risk need substitution and lower well-being.

Individual and Environmental Predictors of Aspirations

As expected, compared to males, females had higher levels of intrinsic aspirations at both age 11 and age 50 (Hypothesis 2). Hypothesis 3 was partially supported, as there was no evidence that extrinsic aspirations were higher for more socially disadvantaged individuals. Neither fathers' schooling duration nor their social class predicted extrinsic aspirations. A link was found between intrinsic aspirations at age 50 and when mothers' husband had higher social class, and a father who stayed in school past the minimum leaving age.

No support was found for Hypothesis 4, as need supportive environments were not found to be linked with greater intrinsic aspirations. There was some support for Hypothesis 5, as need frustrating environments (in the form of arguments about how to dress, style hair, and where the adolescent goes in their spare time) at age 16, were linked with higher extrinsic aspirations at age 50.

Practical Application

GCT suggests that basic psychological need satisfaction and well-being are bolstered when individuals focus on intrinsic aspirations over extrinsic aspirations. The finding that intrinsic aspirations at age 11 predict intrinsic aspirations at mid-life suggests that intrinsic

aspirations could be forming as young as childhood and influence future aspiring. When we consider how to best support individuals with their goal setting, we must broaden our perspective on when the process to support optimal goal setting 'begins'. Goal setting to enhance well-being should arguably start much earlier than at, for example, the selection of a career goal. The capacity to impact goal setting begins at childhood. In addition, the selection of healthy, intrinsic goals is nurtured by environments that provide direct need satisfaction, and so the provision of these experiences should be paramount at all stages of life.

The practical implications of the findings relating to extrinsic aspirations suggest a need to further understand the nuances of extrinsic aspiring. If extrinsic aspirations are more malleable, then we might need to consider ways to make individuals more aware of their extrinsic aspirations and how prominent a role they are playing in their life at any given time. Finding ways to identify the role extrinsic aspirations are playing in a person's life remains crucial to ensuring that extrinsic aspirations do not dominate patterns of aspiring. If extrinsic aspirations are less stable, perhaps there will be moments in one's life where they are at greater risk of dominating their goal priorities. Being aware of signs that extrinsic aspirations are starting to dominate their goal priorities or compromise direct need satisfaction may assist to balance and modulate extrinsic pursuit. Some of the pitfalls of extrinsic aspiring to be avoided are extrinsic aspirations being used as a function of need substitution and the hope that well-being can be found in external pursuits of wealth, image and fame. Individuals could be supported to reduce their reliance on extrinsic aspirations with support and introduction to alternative methods of more direct need satisfaction.

Limitation and Future Directions

A limitation of using previously collected qualitative data means that there is no capacity to further enquire or investigate individuals' motivations behind the aspirational content. Motivational information behind aspirational content would give further insight into

whether goals are being pursued out of controlled or volitional reasons. For example, an individual might aspire to be a doctor for reasons of personal interest, feeling obliged to, or the earning capacity.

While the benefit of following the same individuals over the span of 40 years is the capacity to analyse the within-person stability of aspirations over time, the drawback is that the data follows only one cohort. As a result, the conclusions drawn are limited to the patterns of aspiring relevant to a single cohort. It is, therefore, not possible to control for cohort effects. As a result, sociohistorical circumstances and pressures shared by the group may bear on the results in ways that are not relevant to other cohorts, affecting their generalizability. For example, some features about the era in which the essays were written include the end of the economic boom in Britain, a rapid decrease in divorce rates, and the children's parents were likely to have grown up during the Second World War. Given that the data collection occurred in the UK, the cross-cultural generalisability of the results is also limited.

Further research is required to investigate whether there is an age or method in which the detection of extrinsic aspirations in children's language is possible. Perhaps extrinsic aspirations are easier to detect in older children or adolescents, where signs of need substitution might be more prominent in language use. Consideration is also required for the most effective means for evaluating extrinsic aspirations and its influence in the context of broader patterns of goal setting. Perhaps there is a more effective way to evaluate extrinsic aspiring or a way to detect when extrinsic aspirations being used as need substitution or in the pursuit of happiness is more prominent. For example, qualitative analysis could be conducted to uncover the types of language individuals with extrinsic aspirations with need substitution tend to use and it could be determined whether such language can also be heard in children.

While the current study provides valuable insights into the stability and association of aspirations over time using count data, the effect sizes obtained should be interpreted

cautiously, considering the specific nature of count data. While an increase or decrease of one count is likely to make a substantive and meaningful difference to an individuals life, further studies could strengthen understanding about the stability of aspirations in other contexts and designs.

Another limitation of this study lies in the inability to evaluate need-satisfying and need-thwarting experiences during mid-life or at the age of 50. This limitation hampers the ability to fully disentangle the effects of proximal and distal environments on aspiration orientations. It remains a possibility that more recent environments may predominantly influence aspiration orientations, potentially alleviating concerns for individuals who experienced need-thwarting environments during childhood. While I recognize that the scope of this study was constrained by available database resources, it is important to acknowledge that this limitation may have implications for the generalizability and comprehensiveness of the findings. Future research efforts should aim to address this gap by incorporating assessments of need-satisfying and need-thwarting experiences across different life stages, allowing for a more nuanced understanding of the factors influencing aspiration orientations.

Additionally, the observed influence of predetermined factors such as intellectual ability and socioeconomic status on intrinsic aspirations at age 11 underscores the complexity of individual pathways and the challenges in nourishing intrinsic aspirations from a young age. Practically, while certain factors may be predetermined and beyond our control (e.g. intellectual ability, parent SES), future research could explore the malleability of aspirations to change once controlling for these predetermined factors. By understanding how aspirations may evolve in response to various environmental influences, interventions and strategies can be tailored to foster positive developmental outcomes and promote well-being across the lifespan. For instance, perhaps current proximal need supportive environments foster intrinsic aspirations, beyond the influence of distal predetermined factors.

Chapter Summary

In Chapter 3 I entered uncharted waters by investigating the stability of intrinsic and extrinsic aspiration orientations over four decades, the longest breadth of time that has been examined. The resulting insights improve our understanding of the malleability of aspiration orientations over time and highlight the importance of early environments in the development of aspiration orientations. These conclusions inform how to approach optimal goal setting to enhance well-being.

The findings suggest that people's intrinsic aspirations demonstrate some stability over forty decades, between the ages of 11 and 50. Intrinsic aspirations are present even in early childhood, and are associated with the level of intrinsic aspirations being pursued at mid-life. Conversely, extrinsic aspirations were not stable across the same time period, suggesting that the trajectory of extrinsic aspirations over time is more nuanced.

Approaches and interventions aimed at promoting optimal aspiring trajectories should consider the process of goal development as beginning early in life, not just at the stage of adulthood or only in the context of career goals. Approaches known to increase intrinsic aspirations from early development, such as providing need supportive environments are fundamental in setting up goal pursuits aimed to support well-being across the lifespan.

Chapter 4: The 'Good Life' vs the 'Goods Life':

Aspiration Orientations and Well-Being Over Time.

Childhood is a key developmental period during which ideas about what constitutes a happy or meaningful life are starting to form. As demonstrated in Chapter 3, intrinsic aspirations at age 11 were found to predict intrinsic aspirations 40 years later. The finding that aspirations at childhood can shape aspirations at mid-life, highlights the significance of childhood aspirations but also raises additional questions regarding the implications for well-being. Chapter 4 aimed to shed light on the question of whether the types of aspiration orientations individuals have as children and into mid-life influence their well-being. Do aspiration orientations at age 11, age 50, and the change from age 11 to age 50 predict well-being at age 50? Understanding the potential benefits of particular aspiration orientations over time will provide insight into how to best develop and support pathways that optimise higher levels of well-being.

Goal contents theory specifies two differential pathways to well-being (Deci & Ryan, 1985; Ryan & Deci, 2017). A path that focuses on the prioritisation of intrinsic aspirations (the good life) and path that focuses on the prioritisation of extrinsic aspirations (the goods life). The prioritisation of intrinsic aspirations over extrinsic aspirations is thought to be more conducive to well-being. The prioritisation of intrinsic aspirations sees individuals pursuing and growing in areas that are meaningful to them, building relationships that are warm and reciprocal, caring and giving within their community, and looking after their physical health. When people consistently prioritise intrinsic aspirations, they have opportunities for greater basic psychological need satisfaction, which results in greater well-being.

A contrasting and yet pervasive view of what constitutes a meaningful life is the pursuit of the 'goods life' (Linley & Joseph, 2004). The 'goods life' is the idea that happiness and well-being come from the attainment of wealth and goods. Such messages are pervasive

in modern life and can be seen within systems of government, business, education, media, and in our personal lives (Linley & Joseph, 2004). The pursuit of the 'goods life' is closely tied to an orientation towards extrinsic aspirations, as it focuses on the attainment of goals centred around fame, image and wealth. While a focus on such extrinsic aspirations might provide some happiness, orienting one's goals in this way is less likely to promote consistent and direct satisfaction of psychological needs and well-being (Ryan & Deci, 2017). Thus, what children come to understand as a meaningful life and why they value such pursuits, could lead to divergent paths to well-being. Based on goal contents theory, it would be expected that prioritising the 'good life' will always result in greater levels of well-being compared to prioritising the 'goods life', regardless of whether an individual has oriented toward intrinsic aspirations from childhood or becomes more intrinsically oriented over time. That is because the 'good life' encompasses greater intrinsic goals that offer direct need satisfaction, which is beneficial at any age.

While goal contents theory helps to predict outcomes of well-being based on orientations toward intrinsic and extrinsic orientations, less is known about how changes in such orientations impact well-being. Longitudinal research tracking individuals' aspiration orientations over time has been sparse, particularly over large periods of time and across developmental periods such as childhood to mid-life. As such, certain questions remain unanswered, such as whether the length of time an individual holds a particular aspiration orientation impacts the level of well-being experienced. Are there any advantages for well-being if an individual aspires intrinsically from childhood, and continues to do so into mid-life (remaining), compared to someone who becomes more intrinsically oriented over time (becoming)? The current chapter aims to address this gap by better understanding the development of aspiration orientations in childhood and its link to well-being later in life. Using a longitudinal dataset, the current chapter will evaluate the predictive ability of

aspiration orientation at age 11 and age 50 on well-being at age 50 and consider how different trajectories of aspirations, influence well-being over time. Answering these questions would provide information on the benefits of fostering and developing intrinsic aspirations from childhood. It will also inform how parents and broader communities may be able to facilitate aspiration orientations that optimise greater meaning and well-being for children and individuals.

Aspiration Orientation and Well-Being

Differential associations between intrinsic and extrinsic aspiration orientations and well-being have been well established and demonstrate generalizability across cultures, age groups, and males and females (Bradshaw et al., 2022). A meta-analysis by Bradshaw et al. (2022) synthesised the findings from 92 papers finding a positive moderate link between intrinsic aspirations and numerous well-being related outcomes, such as the fulfilment of psychological needs, life satisfaction, meaning in life, and vitality (Kasser & Ryan, 1993, 1996, 2001; Ryan et al., 1999; Sebire et al., 2009; Yamaguchi & Halberstadt, 2012). In comparison, extrinsic aspirations were not associated with well-being, except for when general aspiring was controlled for, in which case the association was negative. Extrinsic aspirations rely on external factors and likely only indirectly fulfil basic psychological needs (Niemiec et al., 2009; Sheldon et al., 2004). In some cases extrinsic aspirations have been found to link positively to well-being, however, the findings of the review suggest that general aspiring was a key contributor to such a link. This suggests that being engaged with one's goals is beneficial for well-being, regardless of intrinsic or extrinsic domain. The meta-analysis by Bradshaw (2022) demonstrates that goal engagement is positive for well-being but is likely to be enhanced if intrinsic aspirations are prioritised over extrinsic aspirations. In contrast, when an individual's goal pursuits are dominated by extrinsic aspirations at the cost of intrinsic aspirations, ill-being is more likely to result.

The longitudinal evidence also supports the differential link between intrinsic and extrinsic aspirations and well-being. For example, Niemiec et al. (2009) found that individuals embarking on post-college pathways exhibited greater well-being when their aspiration orientation was more intrinsic in nature, regardless of the pathway they decided to take. A study by Kasser et al. (2014) also demonstrated that when people's extrinsic aspirations decreased over time, their well-being increased. When their extrinsic aspirations increased over time, their well-being decreased.

Based on the existing literature, I predicted that individuals who had a relative intrinsic orientation would have the highest levels of well-being, compared to those with a relative extrinsic orientation, or no intrinsic or extrinsic orientation. While prioritising intrinsic goals was hypothesised to yield the highest levels of well-being of all groups, including a "neither" group allowed for further exploration into whether orienting extrinsically is better than having no intrinsic or extrinsic goals. As such, I hypothesised that the "neither" group would have the lowest levels of well-being compared to the other groups because those with neither intrinsic nor extrinsic aspirations could be low in general goal setting, minimising their exposure to need satisfying opportunities. The next section offers evidence to suggest why I propose that early environments lead children to have intrinsic and extrinsic aspirations and that these early environments have an ongoing legacy such that even at age 50 we will be able to detect their influence via the relationship between age 11 aspirations and age 50 aspirations.

Trajectories of Intrinsic Aspirations and Well-Being

Previous research offers some support for the notion that there may be advantages to holding an intrinsic aspiration orientation from childhood. A longitudinal study that involved children being prompted to write about and reflect on intrinsic aspirations over a 4-week period, found that the children experienced higher levels of well-being than those asked to

write about and reflect on extrinsic aspirations (Lekes et al., 2012). The benefits of prioritising intrinsic aspirations from childhood are also evident in a study by Nishimura et al. (2021), which found that junior-high school students who had higher levels of intrinsic aspirations also had higher levels of basic psychological need satisfaction. The findings from Lekes et al. (2012) and Nishimura et al. (2021), demonstrated the applicability of goal contents theory in childhood and early adolescents, suggesting that goal orientation is already impacting psychological need satisfaction and well-being early in life.

While there is some evidence that orienting toward intrinsic aspirations from childhood demonstrate benefits, it is not known whether there is an additional benefit in holding intrinsic aspiration orientations from childhood into mid-life (remaining intrinsically oriented over time). Next, I outline the transactionalecological conceptualisation of development and the self-concordance model, because both offer evidence for why intrinsic aspirations arising in childhood might be more advantageous for well-being.

Transactionalecoloical Approach to Intrinsic Aspirations

The SDT transactionalecological conceptualisation of development stems from organismic theory and suggests that growth and competencies occurring at earlier stages of development influence the *direction* and *quality* of subsequent development (Ryan & Deci, 2017). That is, when the necessary nutrients (i.e., autonomy, competence, and relatedness) are present in early stages of development, optimal development is more likely, including the development of the prioritisation of intrinsic goals. People will prefer actualizing goals when exposed to a growth-promoting environment (Sheldon et al., 2003). Deci and Ryan (1985) also indicate that intrinsic aspirations are linked to and energise significant growth-oriented behaviours, such as seeking out new challenges, pursuing one's interests and exercising skills. Vansteenkiste and Ryan (2013) suggest that the propensity to continue to select intrinsic aspirations could be described as a positive cascading effect. Therefore, holding an

orientation toward intrinsic aspirations at childhood could signify early developmental conditions that have fostered a foundation for ongoing need satisfaction, and selection of intrinsic goals.

Cumulative Gains from Early Intrinsic Aspiration Orientations

The self-concordance model also supports the notion that the accumulation of need satisfying experiences over time leads to an increase in longitudinal well-being (Sheldon & Elliot, 1999). In one of their studies, Sheldon and Elliot (1999) found that the accumulation of activity-based experiences of competence, autonomy, and relatedness over a period of time predicts enhanced well-being at the end of that time. Such findings suggest that the longer someone is experiencing direct need satisfaction, the greater their well-being may be. Therefore, holding an intrinsic aspiration orientation for a longer period of time may contribute to higher levels of well-being because intrinsic aspirations act as a vehicle that optimises exposure to direct need satisfaction.

To summarise, the literature suggests that orienting toward intrinsic aspirations in childhood benefits basic psychological need satisfaction and well-being. Therefore, having intrinsic aspirations from childhood may have early and cumulative benefits to well-being in life. As such, I propose that those who maintain an intrinsic orientation from age 11 to age 50 will have higher levels of well-being. In addition, there may be further benefits to well-being for those who become even more intrinsically oriented from age 11 to age 50 because they are continuing to increase their exposure to need satisfying experiences.

Trajectories of Extrinsic Aspirations and Well-Being

While having an extrinsic aspiration orientation is conducive to lower levels of well-being, a pervasive tendency to orient toward extrinsic aspirations may represent functions of need substitution arising from need thwarting developmental experiences. Alternatively, sustained extrinsic aspirations can arise from being immersed in culture, family, or other

interpersonal relationships that highly value and role model extrinsic aspirations as the pathway to the good life. Either way, early and ongoing extrinsic aspiring could signify less internal resources to pursue goals that offer direct need satisfaction, a greater likelihood of getting stuck in 'hedonic' treadmills, and forming identities that are less congruent with interests and integrated values. All of which, are less conducive to well-being.

Transactionalecoloical Approach to Extrinsic Aspirations

In line with the transactionalecological approach to development, earlier stages of development characterised by need thwarting can influence the *direction* and *quality* of subsequent development (Ryan & Deci., 2017). The presence of an extrinsic aspiration orientation at childhood and into mid-life, could signify the presence of need-thwarting developmental experiences that shaped the direction and quality of subsequent development. Early needs frustration lends to need substitutive behaviours because the lack of psychological nutriments frequently engenders insecurity regarding self-worth and leads to difficulties with the capacity to self-regulate one's actions and experience. As such, need thwarting development experiences set the stage for the adoption of extrinsic aspirations and the search for need satisfaction in less than optimal places. For instance, need thwarting experiences diminish personal agency, and a sense of autonomy, often leading individuals to select goals that are not congruent with their authentic interests and integrated values. In addition, need thwarting experiences can see individuals adopting the values and goals of others to maintain relatedness. Particularly, criticism and thwarting of one's authentic self, may lead to beliefs of 'success' or 'worth' being found in contingencies external to the self.

Cascading Effects of Extrinsic Aspirations

Vansteenkiste and Ryan (2013) posit that turning to extrinsic aspirations as a need substitute can have negative cascading effects on well-being. Cascading effects can be seen in phenomena such as 'hedonic treadmills' and unsatisfying need circumstances that arise from

extrinsic aspiring. The hedonic treadmill is a phenomenon in which people can become habituated and continually seek higher levels of acquisition once the positive effects experienced from the original level dwindle (Myers, 2000). In addition, when individuals look to extrinsic aspirations to fill a void of insecurity to meet psychological needs, the opportunities and circumstances that arise from extrinsic aspiring are not great at satisfying their needs (Kasser, 2002; Niemiec et al., 2009). In addition, the positive effects that arise from achieving extrinsic goals are more superficial and fleeting (Schwartz, 1994). Extrinsic aspirations lead people to turn to more controlled and ego-based activities (Schmuck, et al. 2000). However, money, image and fame can never buy self-esteem, love or freedom (Kasser, 2002). Such evidence suggests that once individuals have started prioritising extrinsic aspirations there are several phenomena working to keep them stuck in a never-ending loop of attempted need satisfaction.

Deficit and Abundance

An issue raised within the literature surrounding the pursuit of extrinsic goals is how existing levels of wealth or deficit influence the link between extrinsic aspiration orientations and well-being. That is, would it make any difference to well-being if one prioritised extrinsic goals from a place of deficit or abundance? Research examining the influence of SES, provides some insight into some possible differences between extrinsic orientations from deficit, or abundance.

There is evidence of extrinsic aspirations arising and existing in both lower levels of SES (Cohen & Cohen, 2013; Kasser et al., 1995) and in individuals from affluent families (Zawadzka et al, 2018). Bradshaw et al. (2022) meta-analytically showed that SES did not moderate the relationship between extrinsic aspirations and well-being. It still may be plausible that the pathways from extrinsic aspiring to lower well-being tell different stories. For instance, although role modelling of extrinsic goals could be prominent in both contexts

of deficit and abundance, ‘how’ they are modelled and the meaning behind constructs such as wealth could differ.

The family investment model suggests that disadvantaged households need to use their capital to attend to more basic pressing needs of the family, have less material resources to expend on children, often working multiple jobs (Chan & Miller, 2013; Conger & Donnellan, 2007). In contrast, higher SES households have more capital and see parents purchasing more material goods for children, and funding enrichment activities (Bradley et al., 2001; Sohr-Preseton et al., 2013; Yeung et al., 2002). In disadvantaged families the likelihood of parents role modelling the need for expensive branded clothing and luxury items is lower. Rather, the need for greater wealth and the acquisition of goods may be modelled in terms having enough to meet needs of food, shelter, and safety. Perhaps then a key difference in environmental messaging in households of deficit versus abundance is striving for extrinsic aspirations out of ‘need’ versus ‘want’.

The differences in capital between environments of deficit versus abundance also contributes to different gaps seen between actual and desired levels of material wealth. A study by Solberg et al. (2004) found that the larger the gap between actual and desired financial states, the lower levels of life satisfaction. Therefore, those from more socioeconomically disadvantaged backgrounds may be at increased risk of lower levels of well-being due to implications and distress that could come with not being able to obtain the extrinsic aspirations they desire.

In addition to differences in the likelihood of attainment, individuals striving extrinsically from a place of deficit may have had less opportunity to realise their potential and develop intrinsic goals to counter the effects of extrinsic aspirations. Deci and Ryan (1985) identified that many contextual factors can derail or fail to support people's potential, including a lack of educational resources, economic opportunity, and supportive relationships

and mentors. While individuals might have inclinations toward football or music, resource deficient environments may not provide the opportunities to actualise and develop pursuits congruent with their authentic interests.

To summarise, the literature offers mixed evidence as to whether aspiring toward extrinsic aspirations from a place of deficit or abundance may be more detrimental to well-being. I expect that those who aspire toward extrinsic aspirations from a place of deficit will have different levels of well-being at age 50, compared to those who aspire toward extrinsic aspirations out of abundance.

Aims

The chapter aimed to determine whether aspiration orientation during childhood and into mid-life are a predictor of well-being in mid-life. The current chapter will specifically test whether aspiration orientation (intrinsic, extrinsic, neither) at age 11 and age 50, predicts well-being at age 50.

Hypotheses

Hypothesis 1

Individuals with a relative intrinsic aspiration orientation at age 50, will have greater levels of well-being at age 50, when compared to those with a relative extrinsic aspiration orientation and no aspiration orientation. Those with no intrinsic or extrinsic aspirations at age 50 will exhibit the lowest level of well-being at age 50.

Hypothesis 2

Well-being will be further enhanced for individuals who remain or become more intrinsically oriented between age 11 and age 50. Conversely, well-being will be lowered for individuals who remain or become more extrinsically oriented between age 11 and age 50.

Hypothesis 3

Individuals with essay content related to deficit will have different levels of well-being at age 50 compared to those who have content related to abundance.

Method

Participants

The current study consisted of a sub-sample of 3845 individuals, who participated in the National Child Development Study (NCDS) in Britain, with data first collected from birth in a single week of 1958. The NCDS was originally designed as a single wave Perinatal Morality Survey and started with 17,000 participants (Power & Elliott, 2006). The benefits of continuing to track such a large sample of a National Cohort were soon realised and funding has permitted a range of data collection to occur across ongoing sweeps. There has now been sweeps of data collection spanning from ages 7, 11, 16, 23, 33, 42, 46, 50 and is still ongoing. Data includes information collected from parents, teachers and children and involves a range of measures and assessments to capture health, education, social development and a range of outcomes variables across their life span.

The sweeps of interest for the current study include when the participants were age 11 and age 50. These were the only two time-points in which participants were asked to provide qualitative information about how they imagine their life in the future. A total of 13,669 participants completed an essay when they were 11 years old, in which the majority of cases were written in April, May or June of 1969. Of the participants who completed the essays, 47.5% were at a state junior school, 45.6% were attending a combined junior and infant school, 0.8% of the children were at secondary school, 3.9% were attending an independent school and 1.1% a school for all ages and 1% at a special school (Elliott et al., 2007). Some features about the era in which the essays were written, include the end of the economic boom in Britain, divorce rates were increasing rapidly but still relatively low and parents of children were likely

to have grown up during the Second World War (Elliott et al., 2007). Well-being measures that were administered when participants were age 50 were also included.

Measures

Aspirations

The qualitative data analysed included essays that participants completed at two different time points across their life. At time 1, 11 year old participants were given 30 minutes to provide a written response to the question 'Imagine you are now 25 years old. Write about the life you are leading, your interests, your home life and your work at the age of 25.' At time 2, 50 year old participants were 'Imagine that you are now 60 years old...please write a few lines about the life you are leading (your interests, your home life, your health and well-being and any work you may be doing)'.

As per Chapter 3, aspirations were coded using the thematic coding system. Aspiration orientation was calculated by creating a relative intrinsicality score (relative to extrinsic aspirations), which involves subtracting the mean number of extrinsic aspirations from the mean number of intrinsic aspirations for each participant. An intrinsic aspiration orientation was defined by a relative intrinsicality score greater than 0. An extrinsic aspiration orientation was defined by a relative intrinsicality score of less than 0. An additional specifying coding system was used to identify cases in which participants wrote that they did not wish to write an essay or simply wrote that life would be the same. The additional specifying codes were used to determine whether there were any differences in well-being for those who did not wish to answer or felt that life would be the same.

Well-Being

Analysis was conducted for a range of well-being measures including mental well-being, quality of life, and functional health and well-being.

Mental Well-Being. Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Tennant et al., 2007) is a positively worded 14 item scale with five self-report response categories. It covers a range of aspects of positive mental health including both hedonic and eudaimonic perspectives. Example items include "I've been feeling optimistic about the future" and "I've been able to make up my own mind about things". Scores ranged between 14 and 70 and higher scores indicate higher levels of well-being. The scale has been found to demonstrate high levels of reliability ($\alpha = 0.91$).

Quality of Life. CASP-12 (Wiggins et al., 2008) was used to measure self-reported quality of life and includes 12 items which cover four theoretical domains: control ("I feel that what happens to me is out of my control", autonomy "I can do the things I want to do", self-realisation "I feel that life is full of opportunities", and pleasure "I enjoy the things that I do" (Wiggins, 2008). Scores range between 0 and 36 with higher scores indicating higher levels of well-being. The scale has been found to demonstrate high levels of reliability ($\alpha = 0.91$).

Functional Health and Well-Being. The SF-36 (Ware et al., 1993) was used to measure self-reported functional health and well-being. The SF-36 is a widely used multi-purpose health survey comprising 36 questions. It comprises 8 domains including emotional well-being, pain, social functioning, energy/fatigue, role limitations due to emotional problems, role limitations due to physical health, general health, and physical functioning. Each of the 8 scales are scored between 0 and 100, with higher scores indicating higher levels of health. The scale has been found to demonstrate high levels of reliability ($\alpha = 0.87$).

Procedure

The essays were kept in two separate folders, separated into 5 batches containing 1000 age 11 essays and 1000 age 50 essays. The essays were randomly assigned to one of two coders trained in the thematic coding system. Each coder had a list of essays and a

coding sheet with matching IDs and entered the present thematic themes for each essay into the coding sheet. Scores of aspirations and measures of well-being were then matched according to ID in R.

Data Analysis

I used R (Version 4.1.0; R Core Team, 2021) and the R packages ggplot2 (Version 3.3.5; Wickham, 2016), and dplyr (Version 1.0.9; Wickham, 2022).

To investigate the predictive ability of aspirations on well-being, I used aspiration data in continuous and categorical forms. I used linear regression for the continuous approach, which included intrinsic aspiration counts or extrinsic aspiration counts as the predictor and different domains of well-being as the outcome variable. I ran linear regression models for intrinsic and extrinsic aspiration counts at age 11 and age 50 to determine how well intrinsic and extrinsic aspirations at age 11 and at age 50 predict well-being at age 50. Intrinsic and extrinsic aspiration counts at age 11 and age 50 were in the form of their original metric and were not standardized. For the linear regressions, measures of well-being were in the form of z-scores.

I developed categorical groups of ‘intrinsic aspiration orientation’, ‘extrinsic aspiration orientation’, and ‘neither intrinsic or extrinsic’ and ran multiple ANOVA to determine whether there were statistically significant differences in mean levels of well-being between the three aspiration categories. The categorical groups were created based on an individuals’ relative intrinsicality score. Relative intrinsicality was calculated by subtracting mean extrinsic counts from mean intrinsic counts. Relative extrinsicality is simply the inverse of the relative intrinsicality score. Participants were allocated to the ‘intrinsic aspiration orientation’ category if they had a relative intrinsicality score > 0. Participants were allocated to the ‘extrinsic aspiration orientation’ category if they had a relative intrinsicality score < 0. Participants were allocated to the ‘neither intrinsic or extrinsic’ aspirations category if they

had 0 intrinsic counts and 0 extrinsic counts. I also conducted post hoc analyses using the TukeyHSD function to determine the mean differences in levels of well-being between those with an ‘intrinsic aspiration orientation’, ‘extrinsic aspiration orientation’, or ‘neither intrinsic or extrinsic’ aspirations.

In order to analyse how changes in intrinsic aspiring between age 11 and age 50 influenced well-being at age 50, I performed several linear regressions using a sum and difference model. Remaining intrinsically oriented comprised the average of age 11 and 50 relative intrinsicality (sum_intrinsic_centrality = relative_intrinsic_centrality_11 + relative_intrinsic_centrality_50), while controlling for the difference between age 11 and age 50 relative intrinsicality scores. Becoming intrinsically oriented was comprised of the difference between age 11 and 50 relative intrinsic centrality scores (difference_intrinsic_centrality = relative_intrinsic_centrality_50 - relative_intrinsic_centrality_11). The formula of the sum and difference model was sad_model = lm(wellbeing_50 ~ sum_intrinsic_centrality + difference_intrinsic_centrality). Well-being was converted into a standardized z score before conducting the analysis for ease of interpretation. Intrinsic centrality at age 11 and age 50 were in the form of their original metric and were not standardized. For the linear regressions, measures of well-being were in the form of z-scores.

Results

The subsample included in the analyses consisted of 3845 individuals. The mean, standard deviation, minimum and maximum levels of well-being, at age 50 for participants can be found in Table 17.

Table 17

Mean, Standard Deviations, Minimum, and Maximum Levels of Well-Being at Age 50

	M	SD	Min	Max
Mental Well-Being	49.6	8.07	14	70
Quality of Life	30.6	6.44	3	42
Functional Health and Well-being				
Emotional Well-Being	75.6	17.7	0	100
Pain	77.8	23.9	0	100
Social Functioning	54.2	17.1	0	100
Energy/Fatigue	60.7	21	0	100
Role Limitations Due to Emotional Problems				
Role Limitations Due to Physical Health	82.8	33.1	0	100
General Health	69.3	21.6	0	100
Physical Functioning	86.7	21.1	0	100

The Links Between Intrinsic and Extrinsic Aspiration Counts at Age 11 and Age 50 to Well-Being at Age 50

There were few statistically significant links between intrinsic aspiration counts at age 11 and well-being at age 50, as well as extrinsic aspiration counts at age 11 and well-being at age 50 (see Table 18). Intrinsic aspiration counts at age 50 were found to hold positive, statistically significant links to well-being at age 50 across all well-being domains. There were no statistically significant links between extrinsic aspiration counts at age 50, and well-being at age 50, other than for quality of life, in which there was a small negative link and, physical functioning, in which there was a small positive link.

Table 18

Intrinsic and Extrinsic Counts at Age 11 and Age 50 Predicting Well-Being at Age 50

	Intrinsic Age 11	Extrinsic Age 11	Intrinsic Age 50	Extrinsic Age 50
Mental Well-Being	0.02	0	0.12***	0
Quality of Life	0.02	0.01	0.14***	-0.08***
Functional Health and Well-being				
Emotional Well-Being	0.01	0.01	0.10***	-0.01
Pain	0.03*	0.03**	0.08***	0.01
Social Functioning	0.02	0	0.03**	0.01
Energy/Fatigue	-0.01	0.02	0.09***	-0.03
Role Limitations Emotional Problems	0.00	0.02	0.07***	0.02
Role Limitations Physical Problems	0.03*	0.02	0.05***	-0.02
General Health	0.04**	0.01	0.13***	0.02
Physical Functioning	0.04**	0.04**	0.11***	0.07**

Note. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Aspiration Orientation Categories at Age 11 as a Predictor of Well-Being at Age 50

There were no statistically significant differences across the three age 11 aspiration orientation categories (intrinsic orientation, extrinsic orientation, no intrinsic or extrinsic aspirations) in the ability to predict well-being at age 50.

Aspiration Orientation Categories at Age 50 as a Predictor of Well-Being at Age 50

At age 50, the intrinsic aspiration orientation group had the highest mean levels of well-being at age 50 in a range of domains, compared to the extrinsic orientation group and no intrinsic or extrinsic aspiration group. Mean levels of well-being for the three groups can be observed in Table 19 and Figure 8.

Table 19

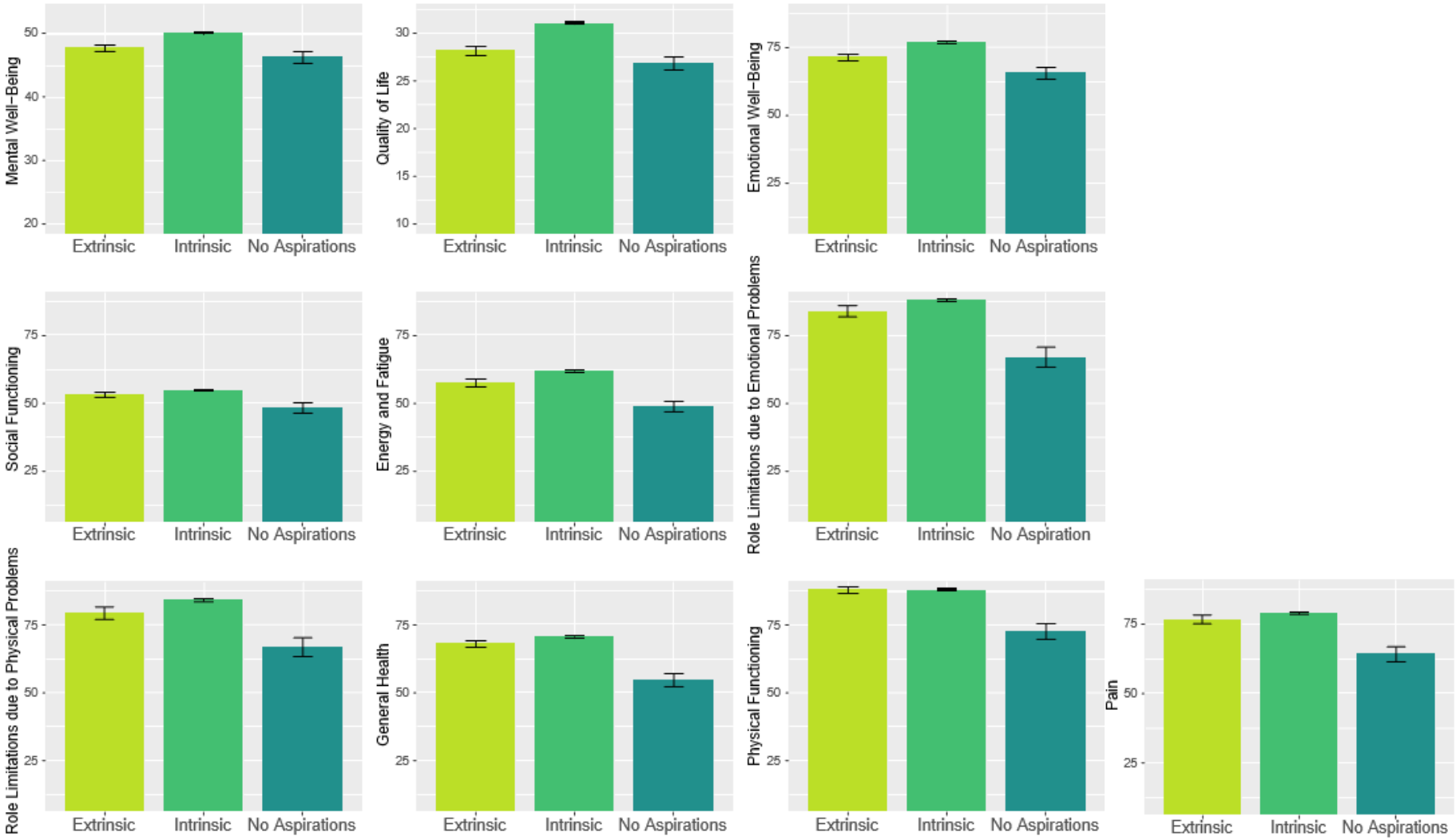
Means, and Standard Deviations for Levels of Well-Being at Age 50 for Intrinsic Orientation, Extrinsic Orientation, and No Intrinsic or Extrinsic Aspirations at Age 50

	Intrinsic Orientation	Extrinsic Orientation	No Aspirations	F-statistic
Mental Well-Being	50.0 (7.79)	47.7 (8.35)	46.3 (10.5)	$F(2, 3651) = 19.97$***
Quality of Life	31.0 (6.12)	28.2 (7.36)	26.9 (7.86)	$F(2, 3601) = 48.15$***
Functional Health and Well-being				
Emotional Well-Being	76.6 (16.8)	71.4 (19.5)	65.6 (24.0)	$F(2, 3650) = 35.73$***
Pain	78.6 (23.0)	76.5 (23.8)	64.2 (31.6)	$F(2, 3651) = 25.54$***
Social Functioning	54.7 (16.5)	53.2 (18.4)	48.3 (23)	$F(2, 3658) = 9.95$***
Energy/Fatigue	61.6 (20.4)	57.4 (21.7)	48.8 (25.0)	$F(2,3650) = 29.15$***
Role Limitations due to Emotional Problems	87.7 (28.3)	83.7 (31.5)	66.9 (43.3)	$F(2, 3652) = 34.78$***
Role Limitations due to Physical Health	84.0 (32.0)	79.2 (35.5)	66.8 (40.9)	$F(2, 3651) = 19.97$***
General Health	70.4 (20.9)	67.9 (21.4)	54.7 (27.2)	$F(2, 3660) = 37.25$***
Physical Functioning	87.6 (19.9)	87.7 (17.7)	72.5 (32.7)	$F(2, 3654) = 36.60$***

Note. Standard deviation in parentheses *$p < .001$, 'No Aspirations' = no intrinsic or extrinsic aspiration counts. Sample sizes: Intrinsic Orientation $n = 3279$; Extrinsic Orientation $n = 243$; No Aspiration $n = 139$.

Figure 8

Means Levels of Well-Being at Age 50 for Intrinsic Orientation, Extrinsic Orientation, and No Intrinsic or Extrinsic Aspirations at Age 50



Mental Well-being

Participants who were intrinsically oriented at age 50 had higher mental well-being at age 50 than those who were extrinsically oriented, or had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of mental well-being for the intrinsically oriented group and extrinsically oriented group ($MD = 2.31$, $p < 0.001$), as well as for the intrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 3.74$, $p < 0.001$). There was no statistically significant mean difference between levels of mental well-being between the extrinsically oriented group and the no aspirations group ($MD = 1.43$, $p = 0.22$).

Quality of Life

Participants who were intrinsically oriented at age 50 had higher quality of life at age 50 than those who were extrinsically oriented, or had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of quality of life for the intrinsically oriented group and extrinsically oriented group ($MD = 2.80$, $p < 0.001$), as well as for the intrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 4.16$, $p < 0.001$). There was no statistically significant mean difference between levels of quality of life between the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 1.34$, $p = 0.12$).

Functional Health and Well-Being

Emotional Well-Being. Participants who were intrinsically oriented at age 50 had higher emotional well-being at age 50 than those who were extrinsically oriented, or had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of emotional well-being for the intrinsically oriented group and extrinsically oriented group ($MD = 5.22$, $p < 0.001$). There was also a statistically significant mean difference between the intrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 11.02$, $p < 0.001$), as well as the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 5.80$, $p < 0.001$).

Pain. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher well-being relating to pain (higher scores represent less pain) at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of pain for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 14.46$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 12.29$, $p < 0.001$). There was no statistically significant mean difference between levels of pain between the intrinsically oriented group and extrinsically oriented group ($MD = 2.18$, $p = 0.34$).

Social Functioning. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher well-being relating to social functioning at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of social functioning for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 6.34$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 4.85$, $p < 0.05$). There was no statistically significant mean difference between levels of social functioning between the intrinsically oriented group and extrinsically oriented group ($MD = 1.49$, $p = 0.38$).

Energy and Fatigue. Participants who were intrinsically oriented at age 50 had higher well-being related to energy and fatigue at age 50 than those who were extrinsically oriented or who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of energy and fatigue for the intrinsically oriented group and the extrinsically aspirations group ($MD = 4.21$, $p < 0.001$). There was also a statistically significant mean difference between levels of energy and fatigue for the intrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 12.81$, $p < 0.001$) and between the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 8.59$, $p < 0.001$).

Role Limitation Due to Emotional Problems. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher well-being related to role limitation due to emotional problems at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of role limitation due to emotional problems for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 20.81$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 16.78$, $p < 0.001$). There was no statistically significant mean difference between levels of role limitation due to emotional problems between the intrinsically oriented group and extrinsically oriented group ($MD = 4.04$, $p = 0.09$).

Role Limitation Due to Physical Problems. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher well-being related to role limitation due to physical problems at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of role limitation due to physical problems for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 17.18$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 12.43$, $p < 0.001$). There was no statistically significant mean difference between levels of role limitation due to physical problems between the intrinsically oriented group and extrinsically oriented group ($MD = 4.75$, $p = 0.07$).

General Health. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher general health at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of general health for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 15.67$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 13.24$, $p < 0.001$). There was no statistically significant mean difference between levels of general health between the intrinsically oriented group and extrinsically oriented group ($MD = 2.42$, $p = 0.20$).

Physical Functioning. Participants who were intrinsically oriented or extrinsically oriented at age 50 had higher physical functioning at age 50 than those who had no intrinsic or extrinsic aspirations at age 50. There was a statistically significant mean difference between levels of physical functioning for the intrinsically oriented group and no intrinsic or extrinsic aspirations group ($MD = 15.07$, $p < 0.001$), as well as for the extrinsically oriented group and the no intrinsic or extrinsic aspirations group ($MD = 15.20$, $p < 0.001$). There was no statistically significant mean difference between levels of physical functioning between the intrinsically oriented group and extrinsically oriented group ($MD = -0.13$, $p = 0.80$).

Remaining and Becoming Intrinsically Oriented as Predictors of Well-Being at Age 50

To test whether there was any additional advantage to well-being at age 50 by remaining intrinsically oriented from age 11 until 50, and becoming more intrinsically oriented from age 11 to age 50, I performed linear regressions using a sum and difference model. Remaining intrinsically oriented comprised the average of age 11 and 50 relative intrinsic centrality (sum), while controlling for the difference between age 11 and age 50 relative intrinsic centrality scores (difference). Becoming intrinsically oriented was comprised of the difference between age 11 and 50 relative intrinsic centrality scores.

Mental Well-Being

There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and mental well-being, b = 0.43, 95% CI [0.32, 0.54]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with mental well-being, b = 0.41, 95% CI [0.29, 0.53] (F(2, 3598) = 43.12, p <.001, R^2 = 0.02).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50 and mental well-being, b = -0.32, 95% CI [-0.41, -0.24]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with mental well-being, b = -0.31, 95% CI [-0.39, -0.22] (F(2, 3598) = 43.12, p <.001, R^2 = 0.02).

Quality of Life

There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and quality of life, b = 0.52, 95% CI [0.41, 0.63]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with quality of life, b = 0.55, 95% CI [0.44, 0.67] (F(2, 3642) = 72.25, p <.001, R^2 = 0.04).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50 and quality of life, b = -0.39, 95% CI [-0.47, -0.31]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with quality of life, b = -0.42, 95% CI [-0.50, -0.33] (F(2, 3642) = 72.25, p <.001, R^2 = 0.04).

Functional Health and Well-Being

Emotional Well-Being. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50, and emotional well-being, b = 0.31, 95% CI [0.20, 0.42]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with emotional well-being, b = 0.41, 95% CI [0.29, 0.53] (F(2, 3632) = 32.42, p <.001, R^2 = 0.02).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50, and emotional well-being, b = -0.23, 95% CI [-0.32, -0.15]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with emotional well-being, b = -0.31, 95% CI [-0.39, -0.22] (F(2, 3632) = 32.42, p <.001, R^2 = 0.02).

Pain. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and pain (higher scores reflecting less pain), b = 0.21, 95% CI [0.10, 0.32]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with pain, b = 0.33, 95% CI [0.21, 0.45] (F(2, 3632) = 18.27, p <.001, R^2 = 0.01).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50 and pain (higher scores reflecting less pain), b = -0.16, 95% CI [-0.24, -0.08]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with pain, b = -0.24, 95% CI [-0.33, -0.16] (F(2, 3632) = 18.27, p <.001, R^2 = 0.01).

Social Functioning. Remaining intrinsically oriented between age 11 and age 50 was not found to predict social functioning, b = 0.09, 95% CI [-0.08, 0.03]. Having an intrinsic orientation that increased between age 11 and 50, was not found to predict social functioning, b = 0.03, 95% CI [-0.09, 0.15] (F(2, 3640) = 2.11, p = 0.30, R^2 = 0).

Remaining extrinsically oriented between age 11 and age 50 was not found to predict social functioning, b = -0.06, 95% CI [-0.15, 0.02]. Having an extrinsic orientation that increased between age 11 and 50, was not found to predict social functioning, b = -0.02, 95% CI [-0.11, 0.06] (F(2, 3640) = 2.11, p = 0.30, R^2 = 0).

Energy and Fatigue. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and energy and fatigue, b = 0.29, 95% CI [0.18, 0.40]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with energy and fatigue, b = 0.43, 95% CI [0.31, 0.55] (F(2, 3632) = 32.59, p <.001, R^2 = 0.02).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50 and energy and fatigue, b = -0.22, 95% CI [-0.31, -0.14]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with energy and fatigue, b = -0.32, 95% CI [-0.41, -0.23] (F(2, 3632) = 32.59, p <.001, R^2 = 0.02).

Role Limitation Due to Emotional Problems. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and role limitation due to emotional problems, b = 0.14, 95% CI [0.03, 0.25]. Having an intrinsic orientation that increased between age 11 and 50, was found to have a positive, statistically significant link with role limitations due to emotional problems, b = 0.27, 95% CI [0.15, 0.39] (F(2, 3633) = 11.41, p <.001, R^2 = 0.01).

There was a negative, statistically significant link between remaining extrinsically oriented between age 11 and age 50 and role limitation due to emotional problems, b = -0.11, 95% CI [-0.19, -0.02]. Having an intrinsic orientation that increased between age 11 and 50, was found to have a negative, statistically significant link with role limitations due to emotional problems, b = -0.20, 95% CI [-0.29, -0.12] (F(2, 3633) = 11.41, p <.001, R^2 = 0.01).

Role Limitation Due to Physical Problems. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and role limitation due to physical problems, b = 0.20, 95% CI [0.08, 0.31]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link to role limitation due to physical problems, b = 0.23, 95% CI [0.11, 0.35] (F(2, 3632) = 10.92, p <.001, R^2 = 0.01).

There was a negative, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and role limitation due to physical problems, b = -0.15, 95% CI [-0.23, -0.06]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link to role limitation due to physical problems, b = -0.17, 95% CI [-0.26, -0.08] (F(2, 3632) = 10.92, p <.001, R^2 = 0.01).

General Health. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and general health, b = 0.44, 95% CI [0.32, 0.55]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with general health, b = 0.45, 95% CI [0.33, 0.57] (F(2, 3642) = 47.98, p <.001, R^2 = 0.03).

There was a negative, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and general health, b = -0.33, 95% CI [-0.41, -0.24]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have

a negative, statistically significant link with general health, b = -0.34, 95% CI [-0.42, -0.25] (F(2, 3642) = 47.98, p <.001, R^2 = 0.03).

Physical Functioning. There was a positive, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and physical functioning, b = 0.25, 95% CI [0.14, 0.36]. Having an intrinsic orientation that increased between age 11 and 50, was also found to have a positive, statistically significant link with general health, b = 0.37, 95% CI [0.25, 0.48] (F(2, 3636) = 24.86, p <.001, R^2 = 0.01).

There was a negative, statistically significant link between remaining intrinsically oriented between age 11 and age 50 and physical functioning, b = -0.18, 95% CI [-0.27, -0.10]. Having an extrinsic orientation that increased between age 11 and 50, was also found to have a negative, statistically significant link with general health, b = -0.28, 95% CI [-0.36, -0.19] (F(2, 3636) = 24.86, p <.001, R^2 = 0.01).

Indicators of Abundance and Deficit and Well-Being at Age 50

The results showed that those who had indicators of deficit in their language surrounding money had the lowest mean levels of well-being across all areas, compared to those with content of abundance, those seeking abundance out of deficit, and no specifier, see Table 20. There was a statistically significant mean difference between levels of well-being for the deficit group, compared to the other groups, in which individuals in the deficit group had the lowest levels of well-being. Additional exploratory post-hoc analyses were conducted to explore the mean levels of well-being of individuals who did not wish to complete an essay at age 50, or indicated that life would likely be the same, see Appendix E. There was a statistically significantly mean difference between levels of well-being for those who did not wish to answer, compared to other groups, indicating that those who did not complete an essay had lower levels of well-being

Table 20

Means, and Standard Deviations for Levels of Well-Being at Age 50 for Abundance and Deficit Specifiers

	Abundance	Deficit	Deficit out of Abundance	No specifier	F-statistic
Mental Well-Being	49.5 (6.40)	43.2 (9.08)	49 (3.39)	49.7 (8.05)	$F(3, 3793) = 9.28$***
Quality of Life	29.3 (5.57)	21.9 (8.45)	25.5 (5.80)	30.7(6.35)	$F(3, 3775) = 26.21$***
Functional Health and Well-Being					
Emotional Well-Being	78.8 (14.6)	58.6 (19.3)	81.6 (17.3)	75.8 (17.6)	$F(3, 3831) = 13.86$***
Pain	73.3 (22.1)	62.1 (31.9)	87.5 (22.8)	78.0 (23.8)	$F(3, 3831) = 6.64$***
Social Functioning	60 (19.7)	49.9 (29.2)	57.4 (9.84)	54.2 (16.9)	$F(3, 3839) = 1.84$
Energy/Fatigue	57.8 (21.7)	46.9 (27.5)	56 (22.2)	60.8 (20.9)	$F(3, 3831) = 6.50$***
Role Limitations due to Emotional Problems	98.6 (6.95)	69 (43.8)	86.7 (29.8)	86.5 (29.5)	$F(3, 3830) = 6.09$***
Role Limitations due to Physical Health	70.7 (41)	58.9 (45.1)	95 (11.2)	83.1 (32.8)	$F(3, 3831) = 8.73$***
General Health	63.3 (22.4)	57.2 (22.8)	72 (29.7)	69.5 (21.5)	$F(3, 3841) = 5.22$***
Physical Functioning	86.6 (20.4)	80.6 (23)	95 (7.07)	86.8 (21.1)	$F(3, 3835) = 1.47$

Note. Standard deviation in parentheses ***$p < .001$

Discussion

In Chapter 4 I aimed to uncover whether aspiration orientations (including intrinsic, extrinsic and, no intrinsic or extrinsic aspirations) at childhood and mid-life predicted well-being at mid-life. In support of Hypothesis 1, individuals with an intrinsic aspiration orientation at age 50 had more well-being at age 50 compared to those with an extrinsic aspiration orientation, and no intrinsic or extrinsic aspirations. As predicted, those with no intrinsic or extrinsic aspirations at age 50 had the least well-being at age 50. I also found support for Hypothesis 2. Well-being at age 50 was positively linked to participants' tendencies to remain and become intrinsically oriented between ages 11 and 50. Hypothesis 3 was also supported, as individuals with content pertaining to deficit had lower mean levels of well-being than those with content pertaining to abundance. Evidently, an intrinsic orientation has several advantages for well-being compared with being extrinsically oriented, and particularly when compared with having no intrinsic or extrinsic aspirations. In addition, having intrinsic aspirations at age 11 could further enhance well-being at age 50, particularly when individuals maintain or further develop an intrinsic aspiration orientation over time. The nuances regarding domains of well-being and aspiring across time and implications for supporting optimal pathways for well-being are discussed below.

Being Intrinsically Oriented at Age 50 Positively Predicts Well-Being at Age 50

The results offer support for the GCT claim that ‘what’ people aspire toward matters and that prioritising intrinsic life goals supports flourishing (Kasser & Ryan, 1993, 1996, 2001). The benefits of prioritising intrinsic aspirations in the overall pattern of aspiring at age 50 are seen in the domains of mental well-being, quality of life, emotional well-being, and energy and fatigue. Such findings are in line with a meta-analysis of 92 studies (Bradshaw et al., 2022), which demonstrated a positive, moderately sized link between intrinsic aspirations and numerous well-being related outcomes, such as the fulfilment of psychological needs, life

satisfaction, meaning in life, and vitality (Kasser & Ryan, 1993, 1996, 2001; Ryan et al., 1999; Sebire et al., 2009; Yamaguchi & Halberstadt, 2012).

The domains in which there were no statistically significant differences between intrinsic and extrinsic aspirations and well-being at age 50 largely fell under the category of physical well-being. At age 50, there were no differences in the domains of general health, physical function, pain, and role limitations. Perhaps reflecting that the benefits to be gained from prioritising intrinsic goals at age 50 are seen more in emotional domains compared to physical domains of well-being.

Individuals with no intrinsic or extrinsic aspirations were consistently found to have the least well-being across a range of domains, when compared to those with intrinsic or extrinsic aspirations. It may be possible that those who had no intrinsic or extrinsic aspirations had other goals outside of the GCT framework. Although, the intrinsic and extrinsic goal categories have great breadth and encompass most major life goal domains, so it may be plausible that no intrinsic and extrinsic aspirations could be equated to low goal striving. The opportunity for greater direct basic psychological need satisfaction may therefore explain why intrinsic aspirations have greater links to well-being compared to having no intrinsic or extrinsic aspirations. While extrinsic aspirations rely on external factors and at best indirectly fulfil basic psychological needs (Niemiec et al., 2009; Sheldon et al., 2004), the findings suggest that even having extrinsic goals at age 50 was more conducive to well-being than having no intrinsic or extrinsic goals. Previous research has suggested that a key contributor to positive links found between extrinsic aspirations and well-being can largely be attributed to general aspiring (Bradshaw et al., 2022).

Becoming versus Remaining Intrinsically Oriented Over Time

The results reported in Chapter 4 suggest that there are benefits to maintaining an intrinsic aspiration orientation from age 11, as remaining intrinsically oriented and becoming

more intrinsically oriented between age 11 and age 50 were both found to increase levels of well-being at age 50. Remaining and becoming intrinsically oriented both linked positively to wellness in domains such as mental well-being, quality of life, emotional well-being, energy and fatigue, pain, general health, physical functioning, and role limitations. The increase in well-being resulting from holding an intrinsic aspiration from childhood and maintaining or increasing it over time might be explained by the benefits of ongoing psychological need satisfaction. For example, the accumulation of need satisfying experiences over time has been found to lead to an increase in longitudinal well-being (Sheldon & Elliot, 1999). Early developmental environments could be crucial to further bolster well-being, which is in line with the notion that growth and competencies occurring at earlier stages of development influence the *direction* and *quality* of subsequent development (Ryan et al., 2016).

Having Aspirations at Age 11 Benefits General Health at Age 50

While the direct effect of aspirations at age 11 on well-being at age 50 was minimal, there was some evidence to suggest that having either intrinsic or extrinsic goals was linked to greater general health at age 50 more so than having no intrinsic or extrinsic goals at age 11. The findings that eleven year olds who write about having goals of either an intrinsic or extrinsic nature have higher levels of general health 40 years later, compared to not writing about intrinsic or extrinsic goals, highlights the influence of goal setting as a power vehicle for health.

Theoretical and Practical Application

GCT challenges the common belief in capitalist culture that the happiest people are those who are the ‘richest’ or ‘most’ popular (Kasser & Ryan, 1993). This chapter supports GCT’s doubts about the value of materialistic pursuits. The findings of Chapter 4 suggest that not only are those who prioritise personal growth, relationships, community, and physical health the happiest people, but they also experience the highest levels of quality of life and

mental well-being. Practically, when comparing the means of mental well-being with the UK norms on the Warwick-Edinburgh Mental Well-Being Scale, all orientation groups (intrinsic orientation, extrinsic orientation and no intrinsic or extrinsic aspirations) fell in the 'Average' of mental well-being. However, having no intrinsic or extrinsic aspirations approached the range classified as 'Low' mental well-being. The findings suggest that having no intrinsic or extrinsic aspirations may be the most detrimental to mental well-being.

The results of Chapter 4 also further work in the field of GCT by evaluating how aspiration orientations over large breadth of time influence well-being. In doing so, further insight has been offered in regards to how fundamental early developmental periods are in shaping and setting up trajectories of aspiration orientations that are more conducive of well-being. There is evidence that intrinsic aspirations formed in childhood may foster well-being across large breadths of time. As in Chapter 3, I reiterate that broader perspective to goal setting in life which encompasses the impact of early developmental experiences is required in aiming to enhance optimal goal setting. Need supportive strategies and approaches that optimise the development of intrinsic aspirations from early development in proximal environments such as home, school, and community are fundamental in promoting well-being.

Limitations and Future Directions

A limitation of the patterns of aspiration orientations at age 50, was the large number of participants who had no extrinsic aspirations. On the one hand, it is a positive that extrinsic aspirations reduce over time, and is somewhat expected that the number of extrinsic aspirations at age 50 would be much lower than that seen at age 11. However, the sample by which claims relating to extrinsic aspirations can be made may be less generalizable. As the data consisted of previously collected qualitative data, it means that there is no capacity to further enquire about the reasons that individuals had no extrinsic aspiration orientations at

age 50. One possibility is that there is a vast decline in extrinsic aspirations at age 50, or perhaps individuals at age 50 tend not to express extrinsic goals in their writing as readily. The implications that this may have on the findings is that a vast majority of participants were classified as intrinsically oriented at age 50.

Additional exploratory analyses pertaining to the potential moderating effects of wealth specifier (deficit, abundance, abundance out of deficit) on the relationship between extrinsic aspirations and well-being were not able to be performed as the occurrences of each level were underpowered.

While the current study provides valuable insights into the association of aspirations and well-being, the effect sizes obtained should be interpreted cautiously, considering the specific nature of count data. While an increase or decrease of one count is likely to make a substantive and meaningful difference to an individual's life, further studies could strengthen understanding about the the impact aspiration orientations on well-being over time in other contexts and designs.

As in Chapter 3, another limitation of only using data from one cohort is that the conclusions drawn are limited to the patterns of aspiring occurring for a single cohort, meaning it is not possible to control for cohort effects. Given that the data collection occurred in the UK, the cross-cultural generalisability of the results is also limited. Further research is required to investigate and extend findings of how aspiration orientations impact well-being using longitudinal designs, across cohort and culture.

Chapter Summary

In Chapter 4 I explored how aspiration orientations evolve over four decades, and how changes in aspirations (or lack thereof) relate to well-being at mid-life. The 'good life' which emphasises the prioritisation of intrinsic aspirations is beneficial to well-being at various ages, as compared to the 'goods life' in which people focus on extrinsic aspirations.

Yet the implications of these different goal prioritisations for well-being had not previously been examined across large breadths of time. Understanding whether patterns of aspiring impact well-being in later life, assist in uncovering whether well-being could be further enhanced by fostering certain patterns of aspiring from childhood.

The prioritisation of intrinsic aspirations at age 50 was positively linked to well-being at age 50, compared to prioritising extrinsic aspirations and having no intrinsic or extrinsic aspirations at age 50. The results highlight that holding intrinsic aspirations at age 11 may enhance well-being, as those who remained or became more intrinsically oriented between age 11 and age 50, had higher levels of well-being. The impact of not having any intrinsic or extrinsic aspirations was even seen at childhood, as having no aspirations, compared to having intrinsic or extrinsic aspirations at age 11 was found to lower levels of general health at age 50.

Processes of goal content development and its impact on well-being are evident from as young as 11 years old. Understanding patterns of aspiration orientations could, therefore, be a powerful vehicle for promoting a life of greater wellness and meaning. Optimising pathways toward the ‘good life’ early in life with continued prioritisation over time is likely to enhance well-being at mid-life.

Chapter 5: The Links Between Parent Characteristics and Children's Intrinsic and Extrinsic Aspirations: A Systematic Review and Meta-Analysis.

Authors Statement of Contribution

Ferber, K. A., Bradshaw, E. L., Noetel, M., Wong, T. Y., Ahn, J. S., Parker, P.D., & Ryan, R.M. (2023). The links between parent characteristics and children's intrinsic and extrinsic aspirations: A systematic review and meta-analysis [Manuscript revised and resubmitted]

Authors	Statement of contribution
Kelly Ferber	I acknowledge that my contribution to the above paper is 52 percent.
Dr. Emma Bradshaw	I acknowledge that my contribution to the above paper is 15 percent.
Dr. Michael Noetel	I acknowledge that my contribution to the above paper is 8 percent.
Tsz Ying Wong	I acknowledge that my contribution to the above paper is 8 percent.
Jee Seul Ahn	I acknowledge that my contribution to the above paper is 8 percent.
Professor Phillip Parker	I acknowledge that my contribution to the above paper is 8 percent.
Professor Richard Ryan	I acknowledge that my contribution to the above paper is 2 percent.

The Links Between Parent Characteristics and Children's Intrinsic and Extrinsic Aspirations: A Systematic Review and Meta-Analysis.

Abstract

Self-determination theory (SDT; Ryan & Deci, 2017) has highlighted the differential roles that intrinsic and extrinsic life goals play in supporting well-being. Less is known about how orientations towards these two types of aspirations develop. It is likely that early environmental influences, namely one's parents, impact individuals' aspirations. We address this gap by systematically reviewing the links between relevant parents' characteristics and the intrinsic and extrinsic goals of their children. We identified 47 eligible studies. Children's intrinsic aspirations were higher when parents provided a need supportive environment (characterized by support for autonomy, relatedness, and competence) and when they endorsed intrinsic aspirations themselves, whereas children's extrinsic aspirations were higher when parents exhibited extrinsic aspirations themselves, promoted the pursuit of extrinsic aspirations, and provided environments characterized by need frustration. Therefore, bolstering basic psychological need satisfaction may promote children's intrinsic aspiring. In addition, parents should also be mindful of their own extrinsic goals, as they may increase extrinsic aspiring in their children and compromise their well-being over the long-term.

Keywords: intrinsic aspirations, life goals, materialism, parenting, autonomous motivation, well-being.

Public Significance Statement
This systematic review and meta-analysis assessed the evidence on how parents influence the intrinsic and extrinsic goals of their children. The results indicated that intrinsic goals were associated with need supportive parenting and parents valuing intrinsic goals themselves. Extrinsic goals were found to be associated with parents having extrinsic goals, parental promotion of extrinsic goals, and need frustrating parenting. It has public significance because it informs parents how to promote children's well-being.

Parents play a vital role in cultivating and supporting the well-being of their children. Some of the ways in which parents influence well-being can be explained by *self-determination theory* (SDT) which offers insight into pathways in life that may be more or less conducive to well-being (Ryan & Deci, 2017). Specifically, the types of goals—or aspirations—people strive for appear to predict well-being. The aspirations understood to be the most conducive to well-being are those that directly satisfy individuals' *basic psychological needs* for autonomy, competence, and relatedness (Ryan & Deci, 2017). SDT's *goal contents theory* (Ryan & Deci, 2017) suggests that such *intrinsic aspirations* (i.e., for personal growth, close relationships, community connections, and physical health) best satisfy individuals' basic psychological needs and foster well-being, compared to an orientation towards *extrinsic aspirations* (i.e., for money, image, and status).

A pervasive but contrasting view of what constitutes a happy or meaningful life is the pursuit of the 'goods life' (Kasser, 2004). The 'goods life' encompasses the idea that happiness and well-being come from the attainment of material goods, wealth, and services. Such messages are pervasive in modern life and can be seen within systems of government, business, education, media, and in our personal lives (Kasser, 2004). The pursuit of the 'goods life' is closely tied to an orientation towards materialistic extrinsic aspirations, as it focuses on the attainment of goals centered around fame, image, and wealth. While a focus on extrinsic aspirations and materialism might provide some happiness, orienting towards one's goals in this way is less likely to promote consistent and direct satisfaction of psychological needs and well-being and can even lead to ill-being (Ryan & Deci, 2017). A recent meta-analysis found that intrinsic aspirations had a positive link to well-being, while extrinsic aspirations were negatively related to well-being (Bradshaw et al, 2021). And, research by Dittmar et al., (2014) also showed that materialism—which is equated with extrinsic aspiring— is negatively related to personal well-being. The literature finds that the

pursuit of extrinsic goals, including for material possessions, is related to unhappiness, less life satisfaction, physical ill-being, and poorer social relationships (Anic & Toncic, 2013; Dittmar et al., 2014; Kasser & Ryan, 2001; Nickerson et al., 2003; Unanue et al., 2014; Zemojtel-Piotrowska et al., 2015). Supporting children to pursue intrinsic aspirations, while minimizing extrinsic aspirations, is therefore beneficial to well-being.

Families as Developmental Context

Families are thought to play a substantial part in shaping and molding the values and aspirations of their children (Hart & Carlo, 2005; Schwartz & Bardi, 2001). Parents may influence their children's aspirations through their own aspirations, through some qualities of the parent–child relationship, and through parents' social and economic circumstances. SDT—and other developmental perspectives—suggest that children are likely to adopt similar aspirations to their parents (Grusec, 1994; Kytle & Bandura, 1978). SDT also posits that specific qualities of the parent-child environment are particularly pertinent to the development of children's aspirations (Ryan & Deci, 2017). Parenting practices that support children's basic psychological need satisfaction bolster their healthy development and their capacity to lean toward intrinsic goals that foster ongoing need satisfaction. Parenting practices that frustrate basic psychological need satisfaction may see children turn to extrinsic aspirations for wealth, image, and fame, as need substitutes.

Parents' social and economic circumstances may also influence the parent-child system and the environments to which a child is exposed (Hill, 1949; Wu & Xu, 2020). When parents are under greater stress, they may adopt psychologically controlling parenting practices, such as harsh discipline and coercion (Conger et al., 1995; Dodge et al., 1994; Grolnick et al., 1996). We define psychological control in the context of parenting practices as the exploitation and manipulation of the parent-child relationship through practices like guilt induction, excessive control, and withdrawal of love (Barber, 1996). SDT posits that

parenting practices characterized by psychological control (versus behavioral control) tend to frustrate children's psychological needs (Bradshaw et al., 2023). When parents are under greater stress, they may adopt more psychologically controlling parenting practices. Hence, parent stressors could contribute to children adopting extrinsic aspirations as a result of greater psychological control. Financial hardship is also thought to place an inherent focus on the need for more money and possessions, which could see children adopting extrinsic goals (Kasser et al., 1995). Although parent characteristics ranging from parents' own aspirations, parenting practices, and broader social and economic circumstances are plausible influences on their children's aspirations, the question remains as to the degree of influence these factors have in the development of children's intrinsic and extrinsic aspirations.

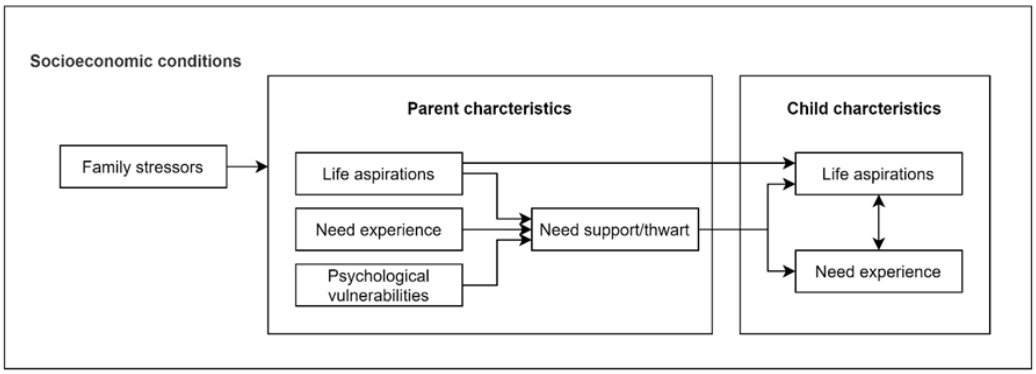
Researchers have found some evidence for parents' own aspirations being a key driver in the development of children's aspirations, whereas other research identifies parenting practices as a key driver. The mixed findings raise the question of whether the predominant influences in the development of intrinsic and extrinsic aspirations are different. Ahn and Reeve (2020) reported a strong longitudinal positive effect of parents' extrinsic aspirations on children's extrinsic aspirations, suggesting that parents' extrinsic aspirations play a fundamental role in the development of children's extrinsic aspirations. Ahn and Reeve (2020) propose a different developmental pathway for intrinsic aspirations that develops in accordance with psychological need satisfaction. Nishimura et al. (2021) found positive links between fathers' aspirations and those of their children, which were not moderated by autonomy support. Fathers' intrinsic aspirations and child-perceived autonomy support were found to be independent predictors of children's intrinsic aspirations.

In this systematic review and meta-analysis, using SDT as our primary theoretical framework, we examine the links between theoretically relevant parent characteristics, and the types of aspirations their children report. This meta-analysis will assist in clarifying the

pooled effect size of parents' aspirations and parenting practices on children's aspirations for both intrinsic and extrinsic aspirations. The results will provide a meta-analytic view of some means by which parents may support the healthy striving and wellness of their children. Figure 1 depicts an SDT-based theoretical framework encompassing the breadth of possible parent influence on the development of children's life aspirations.

Figure 1.

Proposed SDT-based theoretical framework



Parents May Influence Child Aspirations in Multiple Ways

Assimilation of Parents' Own Aspirations

SDT argues that children are prone to internalizing ambient social values and regulations (Ryan & Deci, 2017), leading to the expectation that, because they are key figures in their proximal environment, children will adopt aspirations similar to those of their parents. People tend to take on similar goals to those with whom they are meaningfully connected. SDT also recognizes that people act and behave in ways that are aligned with their values and goals (Ryan & Deci, 2017). Thus, children are likely to adopt similar goals to their parents because they are exposed to pervasive modeling of the goals their parents deem important within their proximal environment. These SDT-based claims are also congruent with evidence from *social learning theory*, which holds that people often adopt beliefs and ways of behaving similar to those with whom they spend time (Grusec, 1994; Kytle &

Bandura, 1978). Thus, a plausible pathway by which parents may impact the aspirations of their children is through modeling their own aspirations.

Based on the theoretical claims mentioned above, we would expect that parents who highly value and aspire toward extrinsic goals would have children who also orient towards goals for money, image, and fame. Indeed, SDT research has demonstrated that parents who particularly value extrinsic aspirations are likely to have children who adopt and enact similar aspirations (Henderson-King & Brooks 2009; Kasser et al. 1995; Moulton et al. 2015). Henderson-King and Brooks (2009) found that fathers who valued appearance had daughters who were more accepting of cosmetic surgery for social reasons and had a greater desire for cosmetic procedures. In addition, Moulton et al. (2015) found that parents who identified popularity as the most important child quality were more likely to have children with extrinsic career aspirations. Similarly, we would expect that parents who prioritize intrinsic aspirations would have children who also prioritize goals involving personal growth, close relationships, health, and community. Kasser et al. (1995) demonstrated that mothers with higher intrinsic values of self-acceptance and affiliation had children who were also higher in self-acceptance and affiliation.

Need Satisfaction and Frustration in the Development of Children's Aspirations

SDT further proposes that parents influence the aspiration orientations of their children as a result of specific factors in the familial environment. Parents differ in the degree to which their parenting supports or frustrates the basic psychological needs of their children (Grolnick et al., 1997). When a parent provides basic psychological need support, their children are more likely to develop a sense of unconditional worthiness, experience inherent joy, seek optimal challenges, and set goals that directly satisfy their psychological needs in the future (Şimşek & Demir, 2013). Early and ongoing psychological need satisfaction is therefore crucial in laying foundations that support children to engage in pursuits that provide

direct satisfaction of their needs (intrinsic aspirations), while other environmental conditions may foster a trajectory of seeking indirect need satisfaction (extrinsic aspirations).

Need Supportive Environments and Intrinsic Aspirations. SDT suggests that there are specific environmental nutrients that parents provide to support their children's basic psychological needs for autonomy, competence, and relatedness, and thereby facilitate a healthy parent-child system (Deci & Ryan, 1985; Ryan & Deci, 2017). Such nutrients include *autonomy support* (support and openness to their child's choices and volition), *involvement* (interest and engagement in their child's life, and the provision of warmth, emotional support, acceptance, and validation), and *structure* (clear expectations and optimal scaffolding for mastery and effectiveness; Grolnick et al., 2002; Grolnick, Deci, & Ryan, 1997; Robichaud et al., 2020). Broadly, experiences of need support tend to spur goal-directed behaviors, whereas amotivation stems from experiences of need frustration (Boggiano, 1998; Deci & Ryan, 2000). Thus, we would expect experiences of need support to be associated with *general* striving in children or their overall strength of aspiring. However, the nuance offered by SDT further contends that need satisfaction especially supports children's healthy, *intrinsic* aspiring.

There are several reasons why need supportive environments are particularly conducive to the development of intrinsic aspirations. An optimal need supportive environment offers conditions in which children are encouraged to explore and interact with their surroundings with their own propensity of curiosity, receive warmth and a sense of love without conditions, and experience opportunities that facilitate growth (Ryan & Deci, 2017). Such environments foster experiences of personal growth and meaningful interpersonal and community relationships, which promote intrinsic aspirations because they are consistent with those experiences. In other words, optimal need satisfaction builds the capacity to have

insight into what is inherently meaningful and to act in ways that support need satisfaction, both of which comprise the underpinnings of intrinsic aspiring.

Empirical research has demonstrated that parental need support is linked with children having greater intrinsic aspirations, across cultures. Lekes et al. (2010) found that autonomy-support was related to greater intrinsic aspirations in adolescents across cultures of North America and China. Chew and Wang (2008) found that student-athletes in Singapore were higher in intrinsic aspirations when they perceived their parents being autonomy supportive. Williams (1999) demonstrated that the level of autonomy support available from a parent can impact the proportion of relative extrinsic aspirations in adolescents. Adolescents who perceived their parents as providing low levels of autonomy support had significantly higher relative extrinsic aspirations compared to those who perceived their parents as providing high levels of autonomy support. Taken together, there is good reason to expect that exposure to need supportive parenting will be associated with children's general aspiring, but that the association will be stronger for intrinsic aspirations compared to extrinsic aspirations.

Need Frustrating Environments and Extrinsic Aspirations. SDT specifies that parental need frustration can hinder children's optimal functioning (Deci & Ryan, 1985; Ryan & Deci, 2017). Such behaviors include autonomy thwarting (e.g., imposing directives of what their child should think, act, or feel), rigid or chaotic structure (e.g., inflexible standards, or passive communication), and psychological control (e.g., erratic outbursts, personal attacks, and conditional regard). Need frustrating environments, undermine the needs for autonomy, relatedness, and competence.

Need frustrating parenting is thought to contribute to the development of extrinsic aspirations for two main reasons. First, need frustrating parenting practices foster behavioral contingencies and a reliance on external rewards and punishments. If children are frequently motivated by rewards, punishment, or what others think of them, they are more likely to

engage with a range of aspirations that appease others. As Ryan and Deci (2017) describe, need frustrating parenting may foster pathways by which children come to rely on extrinsic aspirations for a sense of relatedness and acceptance. That is because children may be more likely to take on identities that conform to psychologically controlling environments, rather than identities in line with their authentic selves that satisfy their basic psychological needs. Second, need frustrating environments arguably lead to extrinsic aspirations because they can deprive a sense of inherent self-worth, which may lead to an over-reliance on external indicators of value or need satisfaction. For example, psychologically controlling practices or a lack of interest in a child may contribute to feelings of being rejected, unloved, or disconnected. *Need substitution* is thought to be a compensatory technique for experiences of need frustration (Deci & Ryan, 2000; Ryan et al., 1996). That is, some may have a sense that obtaining extrinsic goals will assist in correcting for their frustrated needs. Chronic need frustration also generates a sense of insecurity, so pursuing extrinsic goals can act as a mechanism by which an individual seeks external indicators of worth (Deci & Ryan, 2000; Ryan et al., 1996). Thus, children who experience more need frustrating parenting may be more likely to have higher levels of extrinsic, rather than intrinsic aspirations.

Taken together, the relevance of parental need support and psychological needs is twofold, in that early and ongoing experiences of psychological need satisfaction have the potential to support flourishing for children but also influence the trajectories of children's own future need satisfaction strategies. Accordingly, intrinsic aspirations are believed to be more likely to develop when children experience psychological need satisfaction (Ryan & Deci, 2017). Conversely, when a child's psychological needs are frustrated, they are more likely to develop a sense of self that is contingent on external reinforcement, adopt goals that please others, and set goals that may only indirectly satisfy their psychological needs (Şimşek

& Demir, 2013). As such, extrinsic aspirations are believed to be more likely to develop in children when their parents provide environments that frustrate needs.

Parents' Own Basic Psychological Need Satisfaction

There are two possible mechanisms by which parents' high levels of need satisfaction foster intrinsic aspirations in their children. First, children with parents who are higher in need satisfaction are more likely to observe the presence and value of intrinsic aspirations modeled by their parents (Assor, 2018; Yu et al., 2015). Need satisfaction has been consistently linked to a range of outcomes akin to well-being and flourishing (Chen et al., 2015; Kasser & Ryan, 2001; Kasser & Ryan, 1999; Ryan et al., 2010; Sheldon et al., 2004). We would therefore expect that parents who are higher on need satisfaction would also have higher levels of optimal functioning such as vitality, life satisfaction, subjective well-being, a sense of meaning in life, and, therefore, intrinsic aspiring. Second, children of parents higher in need satisfaction may be more likely to be surrounded by environments of need supportive qualities such as autonomy support, structure, and warmth. Need satisfaction has also been suggested to be conducive to more positive experiences within relationships (La Guardia & Patrick, 2008; Patrick et al., 2007). Patrick et al. (2007) found that greater fulfillment of psychological needs was related to greater individual and relationship well-being.

Parent Goal Promotion. SDT posits that parental goal promotion, including perceived parental pressure to pursue extrinsic goals, could contribute to children adopting a more controlling regulatory style, which can increase their likelihood of prioritizing extrinsic aspirations (Deci & Ryan, 1985; Duriez, 2011, Ryan & Deci, 2017). Mouratidis (2013) found that perceived parental promotion of extrinsic aspirations was associated with children's greater endorsement of extrinsic aspirations. Parental promotion of extrinsic goals and the pressure to achieve them may see a child feeling that they need to pursue certain activities or goals in order to please their parents or gain their approval, rather than because they are

genuinely interested or invested in those pursuits. Perceived pressure to pursue extrinsic goals may contribute to children's extrinsic aspirations by making extrinsic aspirations more visible through their modeling and by increasing parents' need frustrating practices in interacting with their child.

Social and Economic Influences on Parent Factors

The interactions and experiences that occur between a parent and child are influenced by the broader spheres of social and economic influence (Bronfenbrenner, 1979; Ryan & Deci, 2017). Parents can face both external and internal pressures, which can reduce their own emotional, social, and physical resources and thus their capacity to be autonomy supportive (Ryan & Deci, 2017). SDT evidence shows that when parents are under greater stress, such as financial strain and stressful life events, they are more likely to adopt controlling parenting practices (Conger et al., 1995; Dodge et al., 1994; Grolnick et al., 1996). Claims about the link between stress and parenting practices are also demonstrated within *family stress theory* (Hill, 1949; Wu & Xu, 2020), which claims that stress contributes to parents becoming more controlling in their parenting practices (Hill, 1949; Wu & Xu, 2020). While stress in general influences parenting practices, specific economic stressors, such as financial strain, offer additional layers of influence that may see children adopt extrinsic aspirations. Single parenting has also been explored as a stressor that may impact the development of children's aspirations. Some claim that, compared to two-parent families, single-parent families may experience more socioeconomic disadvantage and be more socially isolated (Jackson et al., 2000). Children may experience lower emotional and parental support due to the parent being required to work longer hours, and as a result children may go on to develop extrinsic aspirations (Jackson et al., 2000). Less access to resources and parent unavailability may also compromise psychological need satisfaction and conduce to extrinsic aspiring.

SDT research suggests that socioeconomic disadvantage may also see both parents and their children overemphasize the need for financial success, relative to intrinsic aspirations (Kasser et al., 1995). The overemphasis on financial success was suggested to occur out of motivation to improve one's socioeconomic circumstances, lack of opportunity to actualize intrinsic aspirations, or parents' valuing of conformity (Kasser et al., 1995). Thus, there are two pathways via which socioeconomic status may be negatively related to extrinsic aspirations: both indirectly via parenting practices and directly by favoring extrinsic aspirations as a means of trying to ameliorate financial hardship. Taken together, there is evidence to suggest that higher family socioeconomic status may be related to less child extrinsic aspiring. The less socioeconomic means a child has, the more they may want.

Examining Age, Gender, Region, Parent Type, and Informant of Parent Characteristics as Moderators of the Links Between Parent Characteristics and Children's Intrinsic and Extrinsic Aspirations.

We examined other potential moderators including age, gender, region, parent type, and informant of parent characteristics in an exploratory fashion, because these constructs have shown relevance in the fields of child and adolescent development and goal contents theory. For instance, the impact of autonomy support and psychological control on children's development may vary depending on age (Soenens & Vansteekiste, 2010; Ryan & Deci, 2000). Soenens & Vansteekiste (2010) suggest that the specific manifestations of psychological control could differ depending on the developmental stage. For adolescence, identity development could be the psychosocial stage most influenced by psychological control. The literature on goal content has consistently found that females have higher intrinsic aspirations than males, and the inverse for extrinsic aspirations (Bradshaw et al., 2021). Exploring gender as a moderator would assist in establishing whether any differences exist in relation to parent characteristics and children's aspirations, such as females having

stronger associations than males in the links between parent characteristics and intrinsic goals. There may also exist potential cultural differences in the relationship between parenting practices and children's intrinsic and extrinsic goals. One study found that autonomy support was negatively related to extrinsic life goals in North America but not in China (Lekes et al., 2010). Including region (countries clustered roughly by continent) as a moderator could clarify such evidence. Further, studies have generally found that parent reports and child reports of parent aspirations and parent characteristics show consistent links with child aspirations. However, Sutton (2013) found that child-reported 'supportive parenting' had a statistically significant negative link to child's materialism, whereas parent-reported 'supportive parenting' was not statistically significantly linked. We also explored whether the parent type influenced the relations between parent characteristics and children's aspirations given that the field of research has expanded from a predominant focus on mothers, to also considering the influence of both parents or fathers (Nishimura et al., 2021, Tessier et al., 2023; Zawadzka et al., 2022). Including informant (i.e., child or parent) as a moderator could meta-analytically inform this emerging evidence.

The Current Study

To synthesize the links between intrinsic and extrinsic aspirations and a variety of possible parent factors, we formulated a series of hypotheses based on SDT. As mentioned, it is thought that parent factors that impact a child's aspirations could stem from a broader ecological perspective of the influence of parents' socioeconomic status (i.e., education, income, tangible resources), parenting practices, and parent-specific characteristics (i.e., their own aspirations, and basic psychological needs). Seven key hypotheses were formulated to cover this breadth.

Research Questions and Hypotheses

Hypothesis 1a. Consistent with the literature reviewed above, we expect there will be a positive correlation between parents' extrinsic aspirations and the extrinsic aspirations of their children.

Hypothesis 1b. Consistent with Hypothesis 1a, we hypothesize that we will find a positive correlation between parents' intrinsic aspirations and the intrinsic aspirations of their children.

Hypothesis 2a. Need supportive parenting practices characterized by autonomy support, involvement, and structure will be positively correlated with child intrinsic aspirations. In addition, as we outline above, need satisfaction should allow children to orient towards a range of intrinsic and extrinsic aspirations. Thus, we also hypothesize that there will be a positive correlation between parental need support and children's extrinsic aspirations, though the magnitude of this effect is expected to be meaningfully smaller than the effect for intrinsic aspirations.

Hypothesis 2b. Need frustrating parenting practices characterized by psychological control, rejection, or permissiveness will foster child extrinsic aspirations. Conversely, need frustrating parenting should be either not statistically significantly related to child intrinsic aspirations, or have a small negative correlation.

Hypothesis 3. Parent's own need satisfaction will be positively associated with children's intrinsic aspirations.

Hypothesis 4. Also based on the preceding evidence, we hypothesize that parental goal promotion, including perceived parental pressure to pursue extrinsic goals will be positively associated with children's extrinsic aspirations.

Hypothesis 5. Based on the preceding evidence, we expect that parent characteristics representative of greater stress, such as low parent socioeconomic status and single parenting,

will be positively associated with children's extrinsic aspirations. We did not make explicit hypotheses pertaining to the other potential moderators, because we examined them in an exploratory way with the aim of gaining clarity on the existing evidence base.

Method

Transparency and Openness

The method was developed in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement (Page et al., 2021). This review was preregistered at Open Science Framework, where all R code, data and supplementary materials can be found https://osf.io/azbm5/?view_only=759ed7214a4642699d4c88c24ccec004

Eligibility Criteria

For studies to be included in the systematic review, they needed to include at least one parenting variable and one variable measuring children's intrinsic or extrinsic aspirations. Aspiration measures were included if studies used a measure explicitly or historically aligned with SDT's intrinsic and extrinsic aspiration constructs, such as the Aspiration Index (Kasser & Ryan, 1996; Kasser & Ryan, 1993, 2001), the Aspirations Index (Grouzet et al., 2005), a language-adapted version of either Aspiration Index measure (i.e., Nishimura et al., 2021), or a measure of materialism. There are a range of measures designed to capture various aspects of values, goals, and aspirations. Studies that did not include both a parenting factor and one of these measures of children's intrinsic and/or extrinsic aspirations were excluded. No populations were excluded so as to maximize the range of demographic variables represented, including socioeconomic status, ethnicity, and the age of both parents and children. Both published and unpublished studies were included.

In order to capture the range of parent factors that have been explored in the context of children's aspirations, the inclusion criteria were kept broad regarding parent factors (see the search terms included below). Parent factors ranged from parents' own aspirations to parents' socioeconomic status or education level. Parent factors could be self-reported or other-reported, such as their child's perception of their parenting practices.

Search Strategy

An academic librarian was consulted in the development of the search strategy. Bidirectional citation searching was also utilized to enhance inclusion of relevant studies (Hinde & Spackman, 2015). The systematic search was then conducted using the databases ERIC and PsychINFO. The searches included keywords for (a) parent factors (parent* OR mother* OR father* OR paternal OR maternal) and (b) child aspirations (aspiration* OR life goal* OR extrinsic goal* or intrinsic goal* OR extrinsic value* OR intrinsic value* materialism OR materialistic). The publication date was also restricted from 1993 until the present, as the Aspiration Index did not exist prior to this date. This initial search strategy yielded 6,765 articles (June, 2020). In addition, we contacted the international community of SDT researchers via the electronic mailing list (LISTSERVS) in order to access any work that might have been missed in the search. We also included grey literature, such as doctoral theses and data provided to us by authors from unpublished work and poster presentations. In December 2022, we repeated the search, as well as contacted main authors from included articles, to ensure our review included the most recent research. We also conducted backward and forward citation searching on all of the included papers collected from both searches (Greenhalgh & Peacock, 2005; Robinson et al., 2014).

Study Selection

Relevant studies were stored in an Endnote library and duplicate papers were removed. For the initial search, a total of 6,989 papers went through to title and abstract

screening. The program AS Review (van de Schoot et al., 2021) was used to conduct the title and abstract screening. AS Review is an open-source machine learning-aided pipeline with active learning for systematic reviews (van de Schoot et al., 2021). The benefits of utilizing AS Review include title and abstract screening thousands of studies with greater speed and efficiency. The process involves providing AS Review with examples of relevant and irrelevant articles. Machine learning algorithms then acquire the pattern of article relevance and prioritize studies that fit the pattern by bringing forward the most relevant studies to be screened by the researcher. Researchers then continue to make inclusion/exclusion decisions for presented studies. Van de Schoot et al (2021) indicated that 95% of the eligible articles will be found after screening between 8% to 33% of the articles using AS Review. Van de Schoot and colleagues (2021) found that after screening 10% of studies with AS Review, 70%-100% of relevant abstracts were discovered. Such findings demonstrate the capacity of AS review to bring the most relevant articles forward with efficacy and accuracy.

We had two screeners involved in the title and abstract phase who initially provided AS Review with nine articles deemed to be highly relevant. Based on these articles, AS Review then presented articles it deemed to be most relevant. The first screener responded by selecting whether the presented article was either relevant or non-relevant. As expected, relevant articles were detected early in the screening process (Van de Schoot et al., 2021). AS Review's capacity to prioritize and bring forth more relevant articles was evident. In the early stages of the review process, AS Review prioritized papers involving key search terms and papers concerning SDT and materialism. During the middle stage of the AS Review process in which the collection of the majority of relevant articles had been found, the irrelevant papers became progressively clearer. For example, irrelevant papers shifted from including irrelevant constructs but still from SDT, to papers which were very clearly irrelevant toward the end of the procedure. The following excerpt from the abstract of an irrelevant paper offers

an example of a paper that showed relevance to the field of SDT but had the wrong constructs i.e., intrinsic motivation and achievement goals rather than intrinsic goals: “This study evaluated how contextual factors contribute to adolescents’ intrinsic motivation and academic achievement and whether their perceived competence and achievement goals explain these links.” For the initial search, the first screener continued to screen through an additional 500 irrelevant papers in a row. At this point, over 10% of all articles had been screened. The second screener conducted title and abstract screening with the same 10% of articles. For the second updated search in December 2022, the first screener continued to screen through 100 irrelevant papers in row before stopping, again over 10% of all articles being screened. A total of 6,902 papers were excluded based on the title and abstract screening and 87 articles were agreed to be included in the full-text round of review. Four independent screeners then went on to dual screen the full texts. Discrepancies were resolved through discussing the different reasoning until a consensus was reached. The majority of the articles omitted were those excluded because the article did not include a measure of children’s aspirations (n = 16). Other reasons for excluding articles included not using a measure of intrinsic or extrinsic aspirations (n = 8), no parent characteristics being measured (n = 8), the article or the data not available after contacting authors (n = 4), wrong design (n = 3), and duplicate data (n =1). The final number of studies that were included after full-text screening was 47.

Data Extraction

Three researchers conducted data extraction. The lead author collected study data including sample size, publication year, mean age, sample region, parent ethnicity, sex ratio. Dual extraction was conducted for 80% of the papers for the collection of data on scales used for parent factors and aspirations, effect sizes, and variance. Corrections were needed in just 1% of the cases. We examined, discussed, and resolved any inconsistencies.

Data Analysis

We extracted effect sizes pertaining to the relationship between a parent factor and child intrinsic or extrinsic aspirations. The majority of the effect sizes were in the form of Pearson's *r*. Effect sizes in the form of standardized regression coefficients (*B*), were also extracted and converted into a correlation coefficient. When the correlation coefficient was not available to us, we followed the protocol that a regression coefficient can be reliably converted to *r* if it ranges from -.50 to .50 (Bowman, 2012; Hunter & Schmidt, 2004; Peterson & Brown, 2005). Peterson & Brown's (2005) review found regression coefficients ranging between -.50 and .50 were highly correlated with their respective correlation coefficients. We used the formula by Peterson and Brown (2005) to convert *B* to *r*. Of the total effects, only 10% were regression coefficients and they mainly featured in the pooled effect for two models (i.e., parent stress and extrinsic aspirations, and need frustrating parenting practices and extrinsic aspirations). We then transformed all effect sizes from *r* into Fisher's *z* and calculated variance (*v*) and standard errors (*SE*). Effect size magnitudes were defined as the following: 0.05 (very small), 0.10 (small), 0.20 (medium), 0.30 (large) and > 0.40 (very large; Funder & Ozer, 2019). We conducted a moderation analysis of 'Coefficient Type' in the models exploring the link between parent stress and extrinsic aspirations and the link between need frustrating parenting practices and extrinsic aspirations, in order to determine whether the models would yield different results for correlation coefficient and regression coefficient. There was no statistically significant difference of 'Coefficient Type'. There were insufficient studies that had regression coefficients to conduct a moderation analysis for any of the other hypotheses.

The analysis plan utilized both meta-analysis and qualitative synthesis. We used a data extraction sheet to record the study details, effect sizes, and pertinent qualitative data (aims, methods, and key findings) from the full text screening of articles that met the inclusion criteria. Effect sizes were pooled for the hypotheses in which multiple effect sizes

existed and the effect being measured was theoretically aligned with the broader construct. The broader construct of need supportive parenting practices, for example, included effects for autonomy support, structure, involvement and warmth. The broader construct of need frustrating parenting included effects for psychological control, chaotic structure, passive structure, overindulgence, rejection, permissiveness, and authoritarian practices.

We used a multilevel structural equation modeling (SEM) approach (Cheung, 2014). The package used was metaSEM (Version 1.2.5; Cheung, 2015) in R (Version 4.0.3; R Core Team, 2020). A three-level random effects model was used to enable heterogeneity to be explored both within and between studies. Further moderation analyses were conducted when there was evidence of at least medium heterogeneity (I^2 above 0.25). A qualitative synthesis was used for the hypotheses for which the number of effect sizes was too few to justify pooling. Publication bias was examined using a funnel plot and multilevel meta-analytic Egger's regression tests (Egger MLMA; Rodger & Pustejovsky, 2021).

Study Characteristics

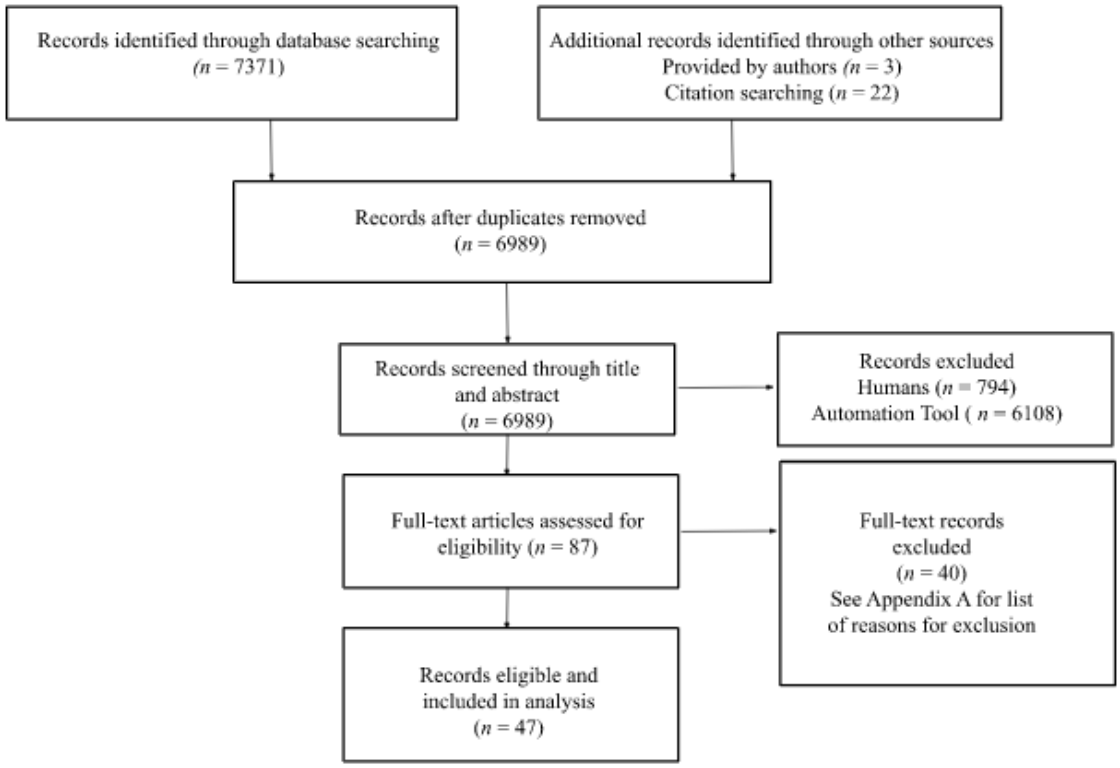


Figure 2. Flow diagram of the studies screened and included in systematic review and meta-analysis.

Results

The characteristics of the 47 eligible studies are listed in Table 1. The included studies were conducted in Africa, America, Europe, Asia, and Oceania.

Table 1

Characteristics of included studies number of children, sample location, the mean age of children, percentage of females, parent characteristics, and measure.

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
Ahn & Reeve (2020)	233	Asia	11.4	55	Perceived parenting style	Parents as Social Context Questionnaire (Skinner et al., 2005)
					Mothers intrinsic and extrinsic aspirations	Aspiration Index (Kasser & Ryan, 1993; 1996)
Baker et al. (2013) (Sample 1)	152	North America	26	56	Tangible resources	Family Resources Scale (Rindfleisch et al., 1997)
Baker et al. (2013) (Sample 2)	173	Western Europe	22	63	Tangible resources	Family Resources Scale (Rindfleisch et al., 1997)
Baker et al. (2013) (Sample 3)	177	South America	26	46	Tangible resources	Family Resources Scale (Rindfleisch et al., 1997)
Bredehoft & Ralston (2008)	369	Mixed	38.25	80.5	Overindulgence	Overindulged (Bredehoft et al., 2002; Bredehoft 2007)
Burroughs & Rindfleisch (1997)	200	North America	26	64.5	Single/two parent household	
Chaplin et al. (2010)	100	North America	12-18	50	Parent support	Adapted Perception of Parental Authority Survey (Buri, 1991)
					Parent materialism	Adapted version of Goldberg et al. (2003) and Dawson (1992) Materialism Scales.

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
Chew & Wang (2008)	205	Asia	14-20	45.85	Perception of parent's autonomy-support, involvement, and warmth.	Perception of Parents Scale (Robbins, 1994)
Chia (2010)	271	Asia	16.48	62.7	Parent materialism Household income	Parent Materialism Scale (Goldberg et al., 2003)
Dávila & Singh (2017)	492	Western Europe	10	49.4	Single/two parent family Family income	
Duriez (2011)	397	Western Europe	16.27	64	Mother's and Father's extrinsic goal promotion	Adapted Goal Pursuit Scale (Duriez et al., 2007)
Duriez (2013)	695	Western Europe	15.91	50.20	Mother's and Father's extrinsic goal promotion	Adapted Goal Pursuit Scale (Duriez et al., 2007)
Flouri (2004)	2218	Western Europe	13.49	44.59	Inter-parental conflict Mother and father involvement Intact family structure	Inter-parental Conflict Scale (Grych, Seid, & Fincham, 1992) Adapted Inventory of Parent Involvement (Hawkins et al., 2002)
Fu et al. (2015)	593	Asia	16.41	38.45	Parental rejection	Short-form Egna Minnen Betra ffande Uppfostran [my memories of upbringing] (s-EMBU; Arrindell et al. 1999)
Grougiou & Moschis (2015)	285	Western Europe	22.87	49.5	Family SES	
Henderson-King & Brooks (2009)	218	Asia	18.4	100	Mother and father appearance related attitudes	The Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson King, 2005)
Kasser et al. (1995)	140	North America	18	47.14	Mother's own aspirations	Aspiration Index (Kasser & Ryan, 1993)
Kasser et al. (2014)	71	North America	12.43	50.70	Mothers and fathers own intrinsic and extrinsic aspirations.	Aspiration Index (Kasser & Ryan, 1993; 1996; Grouzet et al, 2005)

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
					Materialism Materialism Family income, parents' education, socioeconomic ladder.	Materialism – Spend10 (Kasser, 2005) Materialism – percentage 'buy things I want' (Kasser, 2005)
Lekes et al. (2010) (sample 1)	567	North America	15.5	52	Autonomy support	The Perception of Autonomy Support Scale (Robbins, 1994)
Lekes et al. (2010) (sample 2)	515	Asia	14.17	56	Autonomy support	The Perception of Autonomy Support Scale (Robbins, 1994)
Lekes et al. (2011)	140	North America	11-17	50.6	Mother's intrinsic aspirations	Aspiration Index (Kasser & Ryan, 1996)
Li (2021)	222	Asia	13	55.9	Parent materialism Conditional material rewards Unconditional material rewards	Material Values Scale (Richins & Dawson, 1992) Material Parenting Questionnaire (Richins & Chaplin, 2015) Material Parenting Questionnaire (Richins & Chaplin, 2015)
Liu & Koivula (2023)	784	Asia	13.73	48	Family affluence	
Manchiraju & Son (2014)	349	North America	29	41	Mother's and father's education	
Mouratidis et al. (2013)	886	Western Europe	-	66.59	Perception of parent promotion of intrinsic and extrinsic aspirations	Adapted by Duriez et al. (2007) 18 items from the shortened version of Life Goal Aspiration Scale (Kasser & Ryan, 1996)
Murdock (2013)	838	North America	-	65.75	Parent autonomy support	Promotion of Independence and Promotion of Volitional Functioning Scale (Soenens et al., 2007)

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
					Intrinsic and extrinsic parental goal promotion Family income Highest level of education	The Parental Goal Promotion Scale (Duriez et al., 2007)
Nicolotti et al. (2018) (Study 1)	144	Western Europe	-	49.3	Mother's own intrinsic aspirations	Aspiration Index (Kasser & Ryan, 1996)
Nicolotti et al. (2018) (Study 2)	87	Western Europe	-	60.92	Father's own extrinsic aspirations	Aspiration Index (Kasser & Ryan, 1996)
Nishiumura et al. (2021)	310	Asia	14.40	50	Father's own intrinsic and extrinsic aspirations	Translated version of Aspiration Index (Kasser & Ryan, 1993; 1996) by (Nishimura & Suzuki, 2016)
					Father's own satisfaction of basic psychological needs	Satisfaction of Basic Psychological Needs (Chen et al., 2015) translated into Japanese by Nishimura and Suzuki (2016)
					Perceived autonomy support from father	Perceptions of Parent's Scale (Niemiec et al., 2006; Robbins, 1994)
Nguyen et al. (2009)	120	Asia	25.7	69	SES	
Pinto et al. (2017)	1137	South America	11-18	48.7	Economic class	
Poraj-Weder (2014)	453	Eastern Europe	18-34	74	Mother and father rejection, emotional warmth and over-protection	My Memories of Upbringing Egna Minnen Betraffande Uppfostran (s-EMBU) Inventory (Arrindell et al., 1999)
Poraj-Weder (2018)	346	Eastern Europe	20-30	66.5	Parents education, family material status Material deprivation	

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
Proctor et al. (2021)	355	Western Europe	16.9	71.8	Perceived parental conditional regard	Domain-Specific Perceptions of Parental Conditional Regard Scale (Assor et al., 2004)
Rindfleisch et al. (1997)	261	North America	26	63.6	Parents divorced or separated Family wealth, parental education, housing status	
Richins & Chaplin (2015) (Study 2)	261	North America	20-40	52.5	Conditional material reward Unconditional material reward	Material Parenting Questionnaire (Richins & Chaplin, 2015) Material Parenting Questionnaire (Richins & Chaplin, 2015)
Richins & Chaplin (2015) (Study 3)	280	North America	20-40	54.3	Conditional material reward Unconditional material reward	Material Parenting Questionnaire (Richins & Chaplin, 2015) Material Parenting Questionnaire (Richins & Chaplin, 2015)
Roberts et al. (2003)	174 494	North America	13.7	49.4	Family SES	
Roman et al. (2015)	853	South Africa	16.96	57	Mother and father parent style	The Parenting Style and Dimensions Questionnaire (Robinson et al., 2001)
Rothman (2009)	95	North America	17	44.2	Perceived parent yearly salary	
Russell & Shrum (2021) (Study 1)	344	North America	14-17	51.6	Parent materialism Parent income	Material Values Scale (Richins, 2004)
Russell & Shrum (2021) (Study 2)	419	North America	14-17	50.6	Parent materialism Parent income	Material Values Scale (Richins, 2004)

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
Sekarasih (2015)	303	North America	18-25	37	Parent materialism	Material Values Scale (Richins, 2004)
Sheldon et al. (2003)	234	North America	-	-	Parent desirability intrinsic and extrinsic target goals	Emmons (1999)
Sutton (2013)	166	Western Europe	14.1	54.8	Parent materialism Supportive parenting	Material Values Scale (Richins & Dawsons, 1992) The Supportive Parenting Scale (Simons et al., 1992)
Tessier et al. (2023)	647	North America	15.5	57	Rejecting, chaotic and controlling parent style Mother and father education Mother and father intrinsic and extrinsic value enactment	Parents as Social Context (Skinner et al., 2005) Sheldon and Krieger (2014)
Williams et al. (2000)	271	North America	-	53	Parent autonomy support Father's education	Perceptions of Parents (Robbins, 1994)
Williams et al. (2020)	468	Oceania	17	51.9	Mother and father authoritarian, authoritative, and permissive	Adapted version of the Parental Authority Questionnaire (Buri, 1991)
Wright (2012)	200	North America	20.24	47.5	How important child perceived intrinsic and extrinsic values to be to their parent Emotional support from mother and father	Aspiration Index (Kasser & Ryan, 1996) The Quality of Relationship Inventory (Pierce et al., 1991)
Zawadzka et al. (2018)	177	Eastern Europe	14.1	60.5	Family affluence	
Zawadzka et al. (2020)	120	Eastern Europe	14.41	56.7	Mother and father materialism SES	Aspiration Index (Kasser & Ryan, 1996)
Zawadzka et al. (2022)	199	Eastern Europe	14.4	54.5	Parents emotional support Parents material support	Family Resources Scale (cf. Rindfleisch et al.,1997) Family Resources Scale (cf. Rindfleisch et al.,1997)

Study	n	Sample	Child Age	% of Females	Parent Characteristic	Measure
Zawadzka et al. (2022)	199	Eastern Europe	14.4	54.5	Mother and father materialism Mother and father intrinsic and extrinsic aspirations Family income Mother and father education	Aspiration Index (Kasser & Ryan, 1996)

Parents' Extrinsic Aspirations Predict Higher Children's Extrinsic Aspirations

We found sixteen studies that measured parent extrinsic aspirations and child extrinsic aspirations. As shown in Table 2, there was a statistically significant, large, positive association between parent extrinsic and child extrinsic aspirations (r = 0.34, 95% CI [0.26, 0.41], level 2 I^2 = 0.55%, level 3 I^2 = 84.52%). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (38) = 265.29, $p < 0.001$. Moderation by 'Child Age Group' indicated the link between parent extrinsic aspirations and child extrinsic aspirations varied from early adolescence (ages 11-14), middle adolescence (ages 15-17), late adolescence (ages 18-20), and adulthood (ages 21 and above). Specifically, for middle adolescence, the link between parent extrinsic aspirations and child extrinsic aspirations was strong and positive (r = .42, 95% CI [0.34, 0.49]). For late adolescence and adulthood, the link was medium-sized and positive (r = .27, 95% CI [0.12, 0.41]; r = 0.26, 95% CI [0.09, 0.42]), and for early adolescence, the link was not statistically significant. We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 1.95, p = .16.

Table 2

Parent extrinsic and child extrinsic aspirations meta-analysis results by moderator variables

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	16	39	0.34 [0.26, 0.41]	0.35	0.04	< 0.001	0.00	0.03			
Region	16	39					0.00	0.02	0.00	7.57	$\chi^2(3) = 1.18$, $p = 0.76$
Asia	5	15	0.31 [0.17, 0.43]	0.32	0.07	< 0.001					
Eastern Europe	2	6	0.36 [0.14, 0.54]	0.37	0.12	0.001					
North America	8	17	0.33 [0.23, 0.43]	0.35	0.06	< 0.001					
Western Europe	1	1	0.48 [0.18, 0.70]	0.52	0.18	0.003					
Child Age Group	16	39					0.00	0.01	37.56	45.99	$\chi^2(3) = 8.78$, $p = 0.032$
Early	2	11	0.13 [-0.04, 0.30]	0.13	0.09	0.14					
Middle	9	19	0.42 [0.34, 0.49]	0.44	0.04	< 0.001					
Late	3	5	0.27 [0.12, 0.41]	0.28	0.08	< 0.001					
Adult	2	4	0.26 [0.09, 0.42]	0.27	0.09	0.003					
Gender Ratio	16	39					0.00	0.02	1.12	9.23	$\chi^2(1) = 1.39$, $p = 0.24$
>66% female	1	2	0.16 [-0.16, 0.45]	0.16	0.16	0.32					
Mixed (33-66%)	15	37	0.35 [0.27, 0.42]	0.36	0.04	< 0.001					
Specific Aspiration	10	24					0.00	0.01	0.00	34.43	$\chi^2(3) = 3.02$, $p = 0.39$
Overall	9	14	0.34 [0.28, 0.40]	0.36	0.03	< 0.001					
Fame	1	3	0.24	0.24	-						
Image	1	2	0.26	0.26	-						
Wealth	2	5	0.26	0.26	-						
Parent	15	38					0.00	0.03	47.69	0.00	$\chi^2(2) = 0.39$, $p = 0.82$

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Both	8	16	0.35 [0.24, 0.45]	0.36	0.06	< 0.001					
Father	5	7	0.30 [0.17, 0.43]	0.31	0.07	< 0.001					
Mother	5	15	0.33 [0.20, 0.45]	0.34	0.07	< 0.001					
Rater	16	39					0.00	0.03	0.52	3.57	$\chi^2(1) = 0.61$, $p = 0.44$
Child Report	6	9	0.38 [0.25, 0.49]	0.39	0.07	< 0.001					
Parent Self-Report	10	30	0.31 [0.22, 0.41]	0.33	0.05	< 0.001					

Note. *K* = number of studies, *n* = number of effect sizes. *R* = Pearson's correlation, which is Fisher's *z* back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, *p* = *p* values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Parents' Intrinsic Aspirations Predict Higher Children's Intrinsic Aspirations

We found ten studies that measured parent intrinsic aspirations and child intrinsic aspirations. As shown in Table 3, there was a statistically significant, medium-sized, positive pooled association between parent intrinsic and child intrinsic aspirations (r = 0.25, 95% CI [0.15, 0.34], level 2 I^2 = 0.05%, level 3 I^2 = 77.48%). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (21) = 90.89, p < 0.001. The pooled effect between parent intrinsic aspirations and child intrinsic aspirations and moderators can be found in Table 3. None of the moderators improved the baseline model. We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 2.23, p = .14.

Table 3

Parent intrinsic and child intrinsic aspirations meta-analysis results by moderator variables

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	10	22	0.25 [0.15, 0.34]	0.26	0.05	< 0.001	0.00	0.02			
Region	10	22					0.00	0.02	19.05	23.78	$\chi^2(3) = 2.86$, $p = 0.41$
Asia	2	11	0.38 [0.21, 0.54]	0.41	0.10	< 0.001					
Eastern Europe	1	2	0.24 [-0.03, 0.48]	0.25	0.14	0.076					
North America	6	8	0.20 [0.08, 0.31]	0.20	0.06	< 0.001					
Western Europe	1	1	0.25 [-0.08, 0.53]	0.26	0.17	0.14					
Child Age Group	10	22					0.00	0.02	0.00	7.77	$\chi^2(3) = 0.43$, $p = 0.93$
Early	1	10	0.21 [-0.07, 0.45]	0.21	0.14	0.14					
Middle	6	7	0.27 [0.14, 0.39]	0.28	0.07	< 0.001					
Late	2	4	0.21 [0.00, 0.40]	0.21	0.11	0.049					
Adult	1	1	0.30 [0.00, 0.55]	0.31	0.16	0.054					
Gender Ratio	10	22					0.00	0.01	0.87	33.02	$\chi^2(1) = 3.44$, $p = 0.064$
>66% female	1	1	-0.03 [-0.32, 0.26]	-0.03	0.15	0.84					
Mixed (33-66%)	9	21	0.28 [0.19, 0.36]	0.29	0.05	< 0.001					
Parent	9	21					0.00	0.03	38.93	0.00	$\chi^2(2) = 0.25$, $p = 0.88$
Both	2	2	0.23 [-0.02, 0.46]	0.24	0.13	0.072					
Father	3	3	0.22 [0.05, 0.38]	0.23	0.09	0.013					
Mother	6	16	0.26 [0.12, 0.39]	0.27	0.07	< 0.001					
Rater	10	22					0.00	0.02	0.00	0.34	$\chi^2(1) = 0.01$, $p = 0.93$
Child Report	3	4	0.25 [0.07, 0.41]	0.25	0.09	0.006					

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Parent Self-Report	7	18	0.26 [0.14, 0.37]	0.26	0.06	< 0.001					
Specific Aspiration	10	22					0.00	0.02	88.14	0.00	$\chi^2(3) = 2.79$, $p = 0.42$
Overall	9	11	0.27 [0.16, 0.36]	0.27	0.05	< 0.001					
Affiliation	2	4	0.23 [0.08, 0.37]	0.24	0.08	0.002					
Community Giving	1	3	0.20 [0.05, 0.35]	0.21	0.08	0.010					
Personal Growth	2	4	0.17 [0.01, 0.31]	0.17	0.08	0.033					

Note. *K* = number of studies, *n* = number of effect sizes. *R* = Pearson's correlation, which is Fisher's *z* back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, *p* = *p* values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Need Supportive Parenting Predicts Higher Child Intrinsic Aspirations

We found eight studies that measured a need supportive parenting practice and included a measure of children's intrinsic aspirations. There was a statistically significant, medium-sized, positive pooled effect of need supportive parenting on child intrinsic aspirations (r = 0.23, 95% CI [0.15, 0.31], level 2 I^2 = 25.33%, level 3 I^2 = 59.59%). Inspection of the Q statistic revealed statistically significant heterogeneity, $Q(26) = 180.78$, $p < 0.001$.

As shown in Table 4, 'Specific Aspiration' was a statistically significant moderator of the pooled effect. Moderation by 'Specific Aspiration' showed that aggregate intrinsic aspirations had a strong positive link with need supportive parenting (r = 0.23, 95% CI [0.15, 0.31]), whereas the specific intrinsic aspirations may not relate to need satisfying parenting. 'Parent', 'Region', and 'Gender Ratio' did not moderate the baseline model. These results suggest that need supportive parent practices may be associated with child intrinsic aspirations, regardless of which parent is offering the need supportive parenting practice. We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = .19, p = .66.

Table 4

Need supportive parent practices and child intrinsic aspirations meta-analysis results by moderator variables

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	8	27	0.23 [0.15, 0.31]	0.23	0.04	< 0.001	0.00	0.01			
Region	8	27					0.01	0.00	0.00	66.77	$\chi^2(3) = 4.30$, $p = 0.23$
Africa	1	2	0.09 [-0.08, 0.25]	0.09	0.09	0.29					
Asia	4	18	0.28 [0.20, 0.36]	0.29	0.04	< 0.001					
North America	3	4	0.17 [0.05, 0.28]	0.17	0.06	0.006					
Oceania	1	3	0.31 [0.16, 0.44]	0.32	0.08	< 0.001					
Child Age Group	8	27					0.01	0.00	0.00	100.00	$\chi^2(3) = 7.33$, $p = 0.062$
Early	1	10	0.38 [0.32, 0.44]	0.40	0.03	< 0.001					
Middle	5	14	0.22 [0.16, 0.27]	0.22	0.03	< 0.001					
Late	1	2	0.05 [-0.11, 0.20]	0.05	0.08	0.57					
Adult	1	1	0.24 [0.06, 0.40]	0.25	0.09	0.008					
Gender Ratio	8	27					0.00	0.01	0.44	8.49	$\chi^2(1) = 0.56$, $p = 0.46$
>66% female	1	3	0.31 [0.09, 0.49]	0.32	0.11	0.006					
Mixed (33-66%)	7	24	0.22 [0.13, 0.30]	0.22	0.05	< 0.001					
Parent	7	26					0.00	0.01	11.05	13.51	$\chi^2(2) = 1.81$, $p = 0.40$
Both	1	2	0.10 [-0.08, 0.38]	0.16	0.12	0.20					
Father	5	7	0.21 [0.10, 0.31]	0.21	0.06	< 0.001					
Mother	5	17	0.26 [0.16, 0.36]	0.27	0.05	< 0.001					
Specific Aspiration	7	24					0.00	0.03	100.00	0.00	$\chi^2(3) = 17.90$, $p < 0.001$
Overall	7	15	0.25 [0.11, 0.37]	0.25	0.07	< 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
Affiliation	1	3	0.09 [-0.11, 0.28]	0.09	0.10	0.39					
Community Giving	1	3	-0.09 [-0.28, 0.11]	-0.09	0.10	0.37					
Personal Growth	1	3	0.03 [-0.17, 0.23]	0.03	0.10	0.76					

Note. k = number of studies, n = number of effect sizes. R = Pearson's correlation, which is Fisher's z back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, p = p values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Need Supportive Parenting Unrelated to Child Extrinsic Aspirations

We found thirteen studies that measured a need supportive parenting practice and included a measure of children's extrinsic aspirations. The pooled effect for the link between need supportive parenting and child extrinsic aspirations was not statistically significant (r = -0.08, 95% CI [-0.17, 0.02], level 2 I^2 = 61.07%, level 3 I^2 = 34.16%). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (26) = 489.64, p < 0.001 As shown in Table 5, the baseline model (albeit not statistically significant) was moderated by 'Region'. The link between need supportive parenting and child extrinsic aspirations was medium-sized and negative in Eastern Europe (r = -0.27, 95% CI [-0.38, -0.15]), compared to other regions for which the link was small or not statistically significant, except for Oceania in which the link was medium and positive (r = 0.26, 95% CI [0.07, 0.43]). We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 1.05, p = .31.

Table 5

Need supportive parent practices and child extrinsic aspirations meta-analysis results by moderator variables

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	13	27	-0.08 [-0.17, 0.02]	-0.08	0.05	0.11	0.03	0.01			
Region	13	27					0.02	0.00	34.88	100.00	$\chi^2(5) = 18.69$, $p = 0.002$
Africa	1	2	0.06 [-0.13, 0.24]	0.06	0.10	0.53					
Asia	3	8	0.03 [-0.07, 0.14]	0.03	0.05	0.51					
Eastern Europe	2	5	-0.27 [-0.38, -0.15]	-0.27	0.06	< 0.001					
North America	5	6	-0.13 [-0.25, -0.02]	-0.13	0.06	0.025					
Oceania	1	2	0.26 [0.07, 0.43]	0.27	0.10	0.007					
Western Europe	2	4	-0.17 [-0.30, -0.03]	-0.17	0.07	0.014					
Child Age Group	13	27					0.03	0.01	0.00	35.11	$\chi^2(3) = 1.92$, $p = 0.59$
Early	1	1	0.18 [-0.21, 0.52]	0.18	0.20	0.37					
Middle	9	19	-0.08 [-0.19, 0.04]	-0.08	0.06	0.19					
Late	1	2	-0.07 [-0.36, 0.25]	-0.07	0.16	0.69					
Adult	2	5	-0.15 [-0.36, 0.07]	-0.15	0.12	0.18					
Gender Ratio	13	27					0.03	0.02	2.95	0.00	$\chi^2(1) = 0.23$, $p = 0.63$
>66% female	2	6	-0.03 [-0.25, 0.20]	-0.03	0.12	0.80					
Mixed (33-66%)	11	21	-0.09 [-0.20, 0.02]	-0.09	0.06	0.11					
Parent	13	27					0.02	0.01	13.63	10.54	$\chi^2(2) = 3.74$, $p = 0.15$
Both	6	8	-0.18 [-0.32, -0.03]	-0.19	0.08	0.016					
Father	6	9	0.02 [-0.12, 0.17]	0.02	0.07	0.75					
Mother	7	10	-0.05 [-0.18, 0.09]	-0.05	0.07	0.51					

Moderation	*k*	*n*	*r* [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Rater	12	26					0.02	0.02	7.97	0.00	$\chi^2(1) = 0.56$, $p = 0.46$
Child Report	12	25	-0.10 [-0.20, 0.00]	-0.10	0.05	0.058					
Parent Self-Report	1	1	0.06 [-0.34, 0.44]	0.06	0.21	0.78					

Note. *k* = number of studies, *n* = number of effect sizes. *R* = Pearson's correlation, which is Fisher's *z* back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, *p* = *p* values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Need Frustrating Parenting Predicts Higher Child Extrinsic Aspirations

A total of nine studies were found that measured need frustrating practices and a measure of children's extrinsic aspirations. There was a statistically significant, small-sized, positive pooled effect of need frustrating parenting on child extrinsic aspirations (r = 0.15, 95% CI [0.11, 0.20], level 2 I^2 = 42.99%, level 3 I^2 = 32.33%). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (69) = 270.37, p < 0.001. As shown in Table 6, the pooled effect was moderated by 'Region'. Moderation by 'Region' indicated that the link between need frustrating parenting and child extrinsic aspirations was small-to-medium and positive in all regions except Oceania, for which the link was not statistically significant, and 'mixed' regions had a stronger effect than other regions. None of the other moderators improved the baseline model. We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 0.11, p = .74.

Table 6

Need frustrating parent practices and child extrinsic aspiration meta-analysis results by moderator variables

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	9	70	0.15 [0.11, 0.20]	0.16	0.02	< 0.001	0.00	0.00			
Region	9	70					0.00	0.00	11.53	100.00	$\chi^2(5) = 16.89$, $p = 0.005$
Africa	1	4	0.18 [0.11, 0.24]	0.18	0.04	< 0.001					
Asia	3	14	0.14 [0.10, 0.19]	0.14	0.02	< 0.001					
Eastern Europe	1	8	0.09 [0.04, 0.14]	0.09	0.03	0.001					
Mixed	1	13	0.26 [0.22, 0.30]	0.27	0.02	< 0.001					
North America	2	27	0.14 [0.11, 0.18]	0.14	0.02	< 0.001					
Oceania	1	4	0.04 [-0.04, 0.11]	0.04	0.04	0.33					
Child Age Group	9	70					0.00	0.00	0.00	5.56	$\chi^2(2) = 0.38$, $p = 0.83$
Early	2	11	0.13 [0.03, 0.22]	0.13	0.05	0.013					
Middle	5	14	0.15 [0.09, 0.22]	0.16	0.03	< 0.001					
Adult	3	45	0.16 [0.10, 0.23]	0.17	0.04	< 0.001					
Gender Ratio	9	70					0.01	0.00	0.89	0.00	$\chi^2(1) = 0.14$, $p = 0.71$
>66% female	3	25	0.14 [0.06, 0.21]	0.14	0.04	< 0.001					
Mixed (33-66%)	6	45	0.16 [0.11, 0.22]	0.16	0.03	< 0.001					
Parent	9	70					0.00	0.00	2.26	45.30	$\chi^2(2) = 4.25$, $p = 0.12$
Both	5	45	0.19 [0.14, 0.24]	0.19	0.03	< 0.001					
Father	3	8	0.11 [0.03, 0.19]	0.11	0.04	0.005					
Mother	4	17	0.11 [0.04, 0.17]	0.11	0.03	0.001					
Coefficient Type	9	70					0.00	0.00	0.02	1.63	$\chi^2(1) = 0.10$, $p = 0.75$
Correlation coefficient	8	46	0.16 [0.11, 0.20]	0.16	0.02	< 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
Regression coefficient	1	24	0.14 [0.02, 0.25]	0.14	0.06	0.023					
Specific Aspiration	4	29					0.00	0.00	36.72	0.00	$\chi^2(3) = 5.33$, $p = 0.15$
Overall	3	8	0.21 [0.14, 0.28]	0.21	0.04	< 0.001					
Fame	2	7	0.13 [0.05, 0.21]	0.13	0.04	0.003					
Image	2	7	0.20 [0.12, 0.28]	0.21	0.04	< 0.001					
Wealth	2	7	0.19 [0.10, 0.27]	0.19	0.04	< 0.001					

Note. k = number of studies, n = number of effect sizes. R = Pearson's correlation, which is Fisher's z back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, p = p values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Need Frustrating Parenting Predicts Lower Child Intrinsic Aspirations

A total of five studies were found that both measured parental need frustrating and included a measure of children's intrinsic aspirations. The pooled effect size for the association between need frustrating parenting, and child intrinsic aspirations was negative and very weak, r = -0.07, 95% [-0.12, -0.02], level 2 I^2 = 47.40%, level 3 I^2 = 26.89%). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (31) = 118.01, p < 0.001. Such results suggest that need frustrating parenting is not likely to be meaningfully associated with intrinsic aspirations. Moderation by 'Region' indicated that the link between need frustrating parenting and child intrinsic aspirations was very small-to-small and negative in all regions except Oceania, for which the link was not statistically significant, and 'Western Europe' had a stronger effect than other regions. However, we note that the result for 'Region' was based on just one study per region, and so should be interpreted with caution. As shown in Table 7, none of the moderators improved the baseline model, indicating that there appears to be little evidence that parental need frustration is associated with children's healthy aspiring. We did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 1.47, p = .23.

Table 7

Need frustrating parent practices and child intrinsic aspiration meta-analysis results by moderator variables

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	5	32	-0.07 [-0.12, -0.02]	-0.07	0.03	0.010	0.00	0.00			
Region	5	32					0.00	0.00	25.55	100.00	$\chi^2(4) = 10.91$, $p = 0.028$
Africa	1	4	-0.02 [-0.08, 0.05]	-0.02	0.03	0.64					
Mixed	1	13	-0.04 [-0.08, 0.00]	-0.04	0.02	0.036					
North America	1	3	-0.08 [-0.16, -0.01]	-0.08	0.04	0.031					
Oceania	1	4	-0.02 [-0.09, 0.05]	-0.02	0.04	0.57					
Western Europe	1	8	-0.17 [-0.22, -0.11]	-0.17	0.03	< 0.001					
Child Age Group	5	32					0.00	0.00	0.00	11.22	$\chi^2(1) = 0.28$, $p = 0.60$
Middle	4	19	-0.08 [-0.13, -0.02]	-0.08	0.03	0.010					
Adult	1	13	-0.04 [-0.14, 0.05]	-0.04	0.05	0.38					
Gender Ratio	5	32					0.00	0.00	0.00	11.67	$\chi^2(1) = 0.37$, $p = 0.54$
>66% female	3	25	-0.08 [-0.14, -0.02]	-0.08	0.03	0.011					
Mixed (33-66%)	2	7	-0.05 [-0.13, 0.04]	-0.05	0.04	0.27					
Parent	5	32					0.00	0.00	13.50	47.15	$\chi^2(2) = 4.39$, $p = 0.11$
Both	3	24	-0.10 [-0.15, -0.04]	-0.10	0.03	< 0.001					
Father	2	4	0.02 [-0.07, 0.10]	0.02	0.04	0.70					
Mother	2	4	-0.05 [-0.14, 0.03]	-0.05	0.04	0.23					
Specific Aspiration	4	28					0.00	0.00	31.38	30.88	$\chi^2(4) = 7.72$, $p = 0.10$
Overall	4	16	-0.10 [-0.15, 0.04]	-0.10	0.03	0.001					
Affiliation	1	4	0.02 [-0.08, 0.13]	0.02	0.05	0.63					

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Community Giving	1	4	-0.10 [-0.20, 0.01]	-0.10	0.05	0.063					
Personal Growth	1	4	0.01 [-0.10, 0.11]	0.01	0.05	0.92					

Note. k = number of studies, n = number of effect sizes. R = Pearson's correlation, which is Fisher's z back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, p = p values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Parents' Own Need Satisfaction Predicts Higher Intrinsic Aspirations

Little research has been conducted on the link between parents' own need satisfaction and children's aspirations, so the results for Hypothesis 3 will be presented narratively. One study measured the relationship between parents' own psychological need satisfaction and child intrinsic aspirations (Nishimura et al., 2021). The study by Nishimura et al. (2021**)** found a statistically significant and medium-sized positive association between fathers' own psychological need satisfaction and child intrinsic aspirations. A similar association was found between fathers' own psychological need satisfaction and child extrinsic aspirations, suggesting that higher satisfaction of fathers' basic psychological needs could be related to greater aspiring more generally in their children.

Parental Goal Promotion Predicts Higher Extrinsic Aspirations

Regarding Hypothesis 4, the review found studies that included perceived parental promotion of child extrinsic goal pursuit and child extrinsic aspirations. The pooled effect size for the association between perceived parental promotion of child extrinsic goals and child extrinsic aspirations was positive and very large, $r = 0.40$, 95% [.27, 0.51]. Moderation analysis was not conducted, as there were too few studies.

Some Indicators of Parent Stress Predict Higher Child Extrinsic Aspiring

We found twenty-three studies that included an indicator of parent stress and extrinsic aspirations. The pooled effect for the link between indicators of parent stress and extrinsic aspirations was not statistically significant ($r = -0.01$, 95% CI [-0.05, 0.03], level 2 I^2 = 83.90%, level 3 $I^2 = 0.02\%$). Inspection of the Q statistic revealed statistically significant heterogeneity, Q (59) = 385.12, $p < 0.001$. Such results suggest that indicators of parent stress may not be meaningfully associated with extrinsic aspirations. As shown in Table 8, none of the moderators improved the baseline model, indicating that there appears to be little evidence that indicators of parent stress are associated with children's extrinsic aspiring. We

did not detect evidence of publication bias using the MLMA Egger's test, χ^2 (1) = 0.45, p = .50.

Table 8

Indicators of parent stress and child extrinsic aspiration meta-analysis results by moderator variables

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	23	60	-0.01 [-0.05, 0.03]	-0.01	0.02	0.55	0.02	0.00			
Region	23	60					0.02	0.00	4.25	62.93	$\chi^2(4) = 2.33$, $p = 0.68$
Asia	3	3	0.00 [-0.16, 0.15]	0.00	0.08	0.97					
Eastern Europe	5	10	0.05 [-0.04, 0.13]	0.05	0.04	0.31					
North America	11	35	-0.02 [-0.07, 0.03]	-0.02	0.03	0.43					
South America	2	4	0.00 [-0.15, 0.14]	0.00	0.08	0.95					
Western Europe	4	8	-0.05 [-0.14, 0.05]	-0.05	0.05	0.31					
Child Age Group	23	60					0.01	0.00	9.88	100.00	$\chi^2(2) = 5.65$, $p = 0.059$
Early	1	2	0.15 [-0.03, 0.32]	0.15	0.09	0.093					
Middle	14	36	0.00 [-0.04, 0.05]	0.00	0.02	0.84					
Adult	8	22	-0.05 [-0.11, 0.00]	-0.05	0.03	0.063					
Parent	16	41					0.01	0.00	3.14	0.00	$\chi^2(2) = 1.13$, $p = 0.57$
Both	14	35	0.02	0.02	-						
Father	3	3	-0.05 [-0.19, 0.08]	-0.05	0.07	0.44					
Mother	3	3	-0.02 [-0.16, 0.12]	-0.02	0.07	0.75					
Coefficient Type	23	60					0.02	0.00	2.27	24.34	$\chi^2(1) = 1.05$, $p = 0.31$
Correlation coefficient	21	54	-0.02 [-0.06, 0.02]	-0.02	0.02	0.36					
Regression coefficient	3	6	0.04 [-0.07, 0.15]	0.04	0.06	0.45					
Gender Ratio	23	60					0.02	0.00	1.01	58.86	$\chi^2(1) = 0.81$, $p = 0.37$
>66% female	2	5	0.04 [-0.08, 0.17]	0.04	0.06	0.49					
Mixed (33-66%)	21	55	-0.02 [-0.06, 0.02]	-0.02	0.02	0.39					

Moderation	k	n	r [95% CI]	z'	SE	p	$\tau^2_{(2)}$	$\tau^2_{(3)}$	$R^2_{(2)}$	$R^2_{(3)}$	Likelihood Ratio Test
Aspiration Rater	19	55					0.02	0.00	0.25	100.00	$\chi^2(1) = 1.27, p = 0.26$
Child Report	17	41	-0.02 [-0.07, 0.03]	-0.02	0.02	0.49					
Parent Self-Report	3	14	0.04 [-0.05, 0.12]	0.04	0.04	0.39					

Note. k = number of studies, n = number of effect sizes. R = Pearson's correlation, which is Fisher's z back-transformed for ease of interpretation, SE = standard error of Fisher's z transformed correlation, $p = p$ values of each slope. $R^2_{(2)}$ = percent of within study heterogeneity explained by a given model, $R^2_{(3)}$ = percent of between study heterogeneity explained by a given model, Likelihood Ration Test = tests if the model that includes the moderator is an improvement over the baseline model.

Risk of Bias and Quality Assessment of Studies

The included papers were also assessed for risk of bias and quality assessment. There are various suggestions regarding which areas of bias should be assessed when reviewing observational studies. Nine key areas have been identified within the literature including: selection bias, exposure bias, outcome bias, confounding bias, attrition bias, analysis bias, selective reporting bias, conflicts of interest and other (Wang et al., 2019). A template incorporating all nine areas was utilized to ensure a comprehensive risk of bias and quality assessment (Online Supplementary Materials S3).

There was a high level of interrater agreement regarding risk of bias within individual studies, with 92% agreement in coding for the papers in which a dual risk of bias assessment occurred. The nine risks of bias categories were evaluated for each study. The highest level of risk for any given study was three out of the nine categories rated as high risk, with the majority of studies being low risk, and some were unclear because relevant information was not provided. As such, we have not conducted a quantitative analysis of the risk of bias but instead provided a qualitative overview. In regard to selection bias, several studies did not discuss the level of response rate but for those that did, the response rate was deemed high relative to the method used. Selection bias concerning the types of populations being reflective of the target population was mixed, with university and convenience sampling occurring particularly in studies in which participants were adults. The risk regarding attrition was deemed to be low. The majority of the studies were cross-sectional in nature, requiring a only one point of data collection. The longitudinal studies generally had <20% of attrition across waves, with the exception of two studies that had >20% but this was observed at Wave 3. The risk regarding not including confounding variables was deemed low across the majority of the studies. Exposure bias was rated as low, as most measures utilized to assess parent factors were highly cited and deemed valid and reliable. Analysis bias was rated as

low, as studies provided sufficient information about the analysis and analyses were deemed appropriate to meet the aims of the studies. There were two domains that were predominantly unclear across all studies (selective reporting bias and conflicts of interest), as information was not reported in these areas.

Publication bias was examined using a funnel plot and multilevel meta-analytic Egger's regression tests (Egger MLMA; Rodger & Pustejovsky, 2021). We did not detect evidence of publication bias in any of the studies. Funnel plots were used to examine the distribution of the relationship between the effect sizes and standard error. A symmetrical funnel suggests that there is no publication bias (Sterne et al., 2011). The funnels plots indicated that effect sizes were spread symmetrically (Online Supplementary Materials S2).

Discussion

Parents affect children in myriad ways, including influencing the goals for which they strive. The aim of this systematic review was to summarize the various ways that parents contribute to the development of intrinsic or extrinsic aspirations in their children. We expected that children's intrinsic aspirations would be related to their parents' intrinsic aspirations, need satisfying parenting, and parents' own need satisfaction. All of these main hypotheses were supported. We expected that extrinsic aspirations would be related to parents' extrinsic aspirations, need frustrating parenting, and parental extrinsic goal promotion. These hypotheses were also largely supported. However, the pattern of results did contain some unexpected results, such as indicators of parent stress—such as socioeconomic status— not being linked to child extrinsic aspirations. Below, we discuss these findings in more detail as well as situate the results in terms of their theoretical contribution.

Parent-Child Aspiration Assimilation

The results of this review suggest that parents' and children's aspirations are positively linked, regardless of whether they are intrinsic or extrinsic (Hypothesis 1). The results highlight the importance of role modeling and value demonstration within the parent-child system. Being around those who aspire in a particular way can influence the way in which proximal others aspire. The findings are consistent with parenting literature that emphasizes the salience of role modeling within the parent-child system (Grusec, 1994; Kytle & Bandura, 1978). Congruence between parents' and children's extrinsic aspirations is consistent with SDT, which has consistently found that materialistic values are being transmitted between parent and child (Henderson-King & Brooks 2009; Kasser et al. 1995; Moulton et al. 2015; Nishimura et al., 2021). While the pooled effect for Hypothesis 1 mainly included cross-sectional data due to this being the predominant study design, we note that there was one study that did explore the predictive nature of parents' aspirations on children's aspirations (Ahn & Reeve, 2020). Ahn and Reeve (2020) found causal evidence for a direct effect between parent extrinsic aspirations and child extrinsic aspirations longitudinally. Moderation analysis highlighted that the link between parent-child extrinsic aspirations was the strongest in mid-adolescence, a developmental period characterized by identity formation and the influence of role models.

Need Supportive Parenting Fosters Intrinsic Aspirations

The results of the current review showed that need supportive parent practices are conducive to children's intrinsic aspirations but not for their extrinsic aspirations (Hypothesis 2a). Such findings are consistent with the SDT literature, suggesting that environments fostering the satisfaction of psychological needs of autonomy, competence, and relatedness, lead to the development of intrinsic aspirations. That is, being able to engage with the world in an autonomous manner, feeling related to others and experiencing optimal challenges facilitates the adoption of values that are healthier for optimal functioning. Moderation

analysis revealed that need supportive parenting was more strongly related to children's intrinsic aspirations as an aggregate. This suggests that need supportive parenting may be conducive to an intrinsic atmosphere encompassing aspirations inclusive of personal growth, affiliation, physical health, and community giving, rather than just one domain.

While some of our hypotheses suggest a directional relationship from parent to child, it is important to note that our cross-sectional dataset cannot speak to directionality or temporality. Longitudinal studies have been conducted, but the number of studies available is currently insufficient to meta-analyze. Nonetheless, these longitudinal studies have alluded to a potential causal relationship between parent practices and children's intrinsic and extrinsic aspirations (Ahn and Reeve, 2020; Duriez et al., 2013; Mouratidis et al., 2013; Williams & Ciarrochi 2020). Williams and Ciarrochi (2020) found that need supportive practices provided by mothers when their child was in grade 7 yielded a positive, medium-sized association with their child's intrinsic goals post-school. Ahn and Reeve (2020) found that perceived need supportive parenting yielded statistically significant, large-to-very-large associations with children's intrinsic aspirations at the beginning of a 12-month period and medium-sized associations with children's intrinsic aspirations at the end a 12-month period. However, Ahn and Reeve (2020) also suggest that the distinction between perceiving one's parents to be need supportive and experiencing need satisfaction is crucial in understanding the development of intrinsic aspirations. That is, a parent offering a need supportive environment may only influence a child's intrinsic aspirations to the extent to which the environment actually leads to need satisfaction. This highlights the importance of considering actual need satisfaction in the context of need supportive parenting in fostering intrinsic aspirations.

Need Frustrating Parenting Fosters Extrinsic Aspirations

Need frustrating environments were found to be linked with children's extrinsic aspirations, as well as having a small negative link with intrinsic aspirations (Hypothesis 2b). Such findings are consistent with the SDT literature, suggesting that environments that frustrate need satisfaction see children turning to external contingencies in their values and aspirations (Deci & Ryan, 2000; Ryan & Deci, 2017; Ryan et al., 1996). Need frustration has consistently been found to negatively impact the lives of children in domains such as social relationships, learning and well-being (Bartholomew et al., 2011; Hein et al., 2015; Ryan et al., 2016). These current results show that need frustrating environments also contribute to extrinsic aspirations, which could be detrimental to their well-being. If children overemphasize the importance of extrinsic aspirations in life, they may be setting goals for themselves that will at best indirectly satisfy their needs and could even take them down a path of ill-being (e.g., Niemiec et al., 2010). The findings of the current review highlight the importance of considering the role of need frustrating environments in the development children's extrinsic aspirations.

The finding that need frustrating environments were only weakly associated with intrinsic aspirations suggests that the provision of need frustrating parenting practices may not necessarily undermine their children's intrinsic aspirations. The finding that need frustrating environments had a small negative link to intrinsic aspirations further reinforces that the ways parents may foster extrinsic aspirations does not necessarily contribute to vastly diminishing their child's intrinsic aspirations.

The Impact of Parents' Own Need Satisfaction, Parent Goal Promotion, and Sources of Stress

There is emerging evidence to suggest that parents may influence their children's aspirations through their own need satisfaction, goal promotion, and sources of stress. We proposed that parents higher in their own need satisfaction would foster intrinsic aspirations

in their children (Hypothesis 3). While we found some support for this claim, parents' own need satisfaction was also found to be related to children having higher extrinsic aspirations (Nishimura et al., 2021). Further clarity is required to determine whether fostering parents' own need satisfaction has utility for fostering intrinsic aspirations or just aspiring more generally. Possibly parents experiencing greater basic psychological need satisfaction may have more resources such as time, energy, and attention to devote to their children's goals whether they are of an intrinsic or extrinsic nature.

The results of the review suggest that parental goal promotion, including the perceived promotion of extrinsic goals, is strongly linked with their children's extrinsic aspirations (Hypothesis 4). Further support for Hypothesis 4 is provided by the longitudinal findings from Mouratidis et al. (2013) who found that perceived parental promotion of extrinsic aspirations at the beginning of a school year yielded statistically significant, very large positive associations with their children's extrinsic aspirations at the beginning and end of the school year, and into the next school year. In addition, a longitudinal study by Duriez et al. (2013) found that perceived maternal and paternal promotion of extrinsic aspirations had statistically significant, large-to-very-large positive associations with adolescents' extrinsic aspirations, one year later. This suggests that children may value their parents' opinions and adopt extrinsic goals if they believe their parents want them to pursue these goals. Although extrinsic goals may have some value, it is vital to avoid overemphasizing them at the expense of intrinsic goals. SDT further suggests that encouraging children to pursue goals that are aligned with their personal values and interests can lead to greater well-being and fulfillment.

Contrary to Hypothesis 5, we found no evidence that sources of parent stress—such as lower socioeconomic status—link to extrinsic aspirations. While the majority of the studies found no meaningful link between indicators of parent stress and children's extrinsic

aspirations, there still remains inconsistent findings amongst the literature. Kasser (1995) found that teenagers with lower socioeconomic status valued financial success aspirations more than intrinsic aspirations such as self-acceptance, affiliation and community feeling. Yet, other studies have found small, positive associations between father's education and family affluence and their children's extrinsic aspirations (Williams et al., 2000; Zawadzka et al., 2018). Further research is warranted to explore how parents' stress may impact their children's strivings. Future research could examine how different sources of stress affect the development of extrinsic aspirations in children. It is possible that low socioeconomic status may create conditions that promote extrinsic goals for some individuals, while high socioeconomic status may foster extrinsic goals in others.

Limitations

Our research has contributed to our understanding of the breadth of parent factors that have been studied in relation to child aspirations. But for some of our questions there was not enough literature to provide summary statistics. Although we found sufficient studies and effects sizes relating to our main effect hypotheses concerning parent's aspirations and parenting practices as they related to child aspirations, one of the moderation results had to be conducted in an exploratory fashion due to a limited number of studies. There were not enough cross-regional effects for us to make any conclusions about the role of region in the link between need frustrating parenting practices and children's intrinsic aspirations. While research in this field has advanced its scope regarding the parent type, we still found fewer studies exploring the role of fathers than what was available for mothers. This highlights where future research could be helpful in uncovering the mechanisms relating to our research questions. For example, our review supports the notion that 'what' a parent aspires towards matters, but the exact mechanisms through which aspirations transmit from parent to child need further clarity for both extrinsic and intrinsic aspirations. Perhaps the degree to which a

child adopts similar aspirations to their parents depends on *which parent* models the particular aspirations, *how* parents model their aspirations, and whether the aspiration is modeled in autonomous versus controlling ways. While the findings suggest that parent extrinsic goal promotion is related to their children's extrinsic goal pursuit, research on parent intrinsic goal promotion remains scarce and offers mixed findings (Mouratidis et al., 2013; Murdock et al., 2013). While parents might see the value in their children adopting intrinsic goals, there remains the possibility that parental pressure to pursue intrinsic goals could be experienced as controlling by their children, mitigating the adoption of the promoted intrinsic goals.

Given that parental need support appears to be particularly relevant to children's intrinsic aspirations, further research is required to better our understanding of the types of factors that contribute to parents being more or less need supportive. The following questions could be considered: Does a parent's sense of providing a need supportive environment match their child's experience of need satisfaction? Does increasing parents' own need satisfaction bolster their child's need satisfaction? A broader investigation into parents' needs is underexplored, for instance there is a scarcity of research on the impact of parental need frustration on child goal development. Given the potential significance of both need satisfaction and frustration in parents' well-being and their likely influence on parenting style and goal selection, further investigation into parental need frustration is warranted. Further clarity is also required surrounding how socioeconomic conditions impact the parent-child system and the development of aspirations. It is not clear whether a parent valuing money in the context of deficit or low socioeconomic status is different from a parent valuing money in the context of abundance or high socioeconomic status and how this translates to a child's aspirations surrounding wealth. While stress has been found to contribute to more psychologically controlling parenting, it would be worth uncovering whether family stressors

are always detrimental to the parent-child context? This poses questions such as, can adversity foster intrinsic aspirations, and under what circumstances?

The systematic review also highlighted that the predominant research design that has been adopted in this field is of a cross-sectional, correlational design. Further longitudinal studies, such as that seen in a recent study by Ahn and Reeve (2020), are required to better understand the causal nature of the development of aspirations. In addition, parenting was predominately rated from the perspective of the child. Future studies could broaden the insight by measuring both parent's and child's perceptions. This would offer particular utility in the case in which a parent perceives that they are stylistically autonomy supportive, whereas the child's perception is that the parent is low in autonomy support.

Conclusion

We aimed to provide clarity regarding the parent characteristics associated with the life aspirations that children develop. Shedding light on this issue could help identify parent characteristics that foster healthy trajectories of goal setting for children. Equally valuable is the capacity to know how to minimize children excessively aspiring to extrinsic aspirations, external contingencies, and hedonic treadmills. Goal contents theory (Ryan & Deci, 2017) suggests that well-being is optimized by the pursuit of intrinsic aspirations, whereas an emphasis on extrinsic aspirations leads to ill-being.

The findings of this review demonstrate that parents do impact the aspirations that their children develop. The ways in which parents influence children's intrinsic aspirations are different to the ways in which they influence children's extrinsic aspirations. This suggests that parents should not just focus solely on optimizing intrinsic aspirations but also need to be mindful of the ways in which they can minimize extrinsic aspirations. Intrinsic aspirations are most likely to be fostered with parenting that is conducive to need satisfaction and when parents aspire intrinsically themselves. Extrinsic aspirations will be most prominent

in environments in which parents hold extrinsic aspirations themselves and promote and encourage their children to pursue extrinsic aspirations. Parenting that embodies need frustration was also found to be related to children's extrinsic aspirations.

Approaches and interventions aimed at promoting children's intrinsic aspirations could aim to promote environments conducive to psychological need satisfaction (Joussemet et al., 2018). Whereas interventions aimed at reducing children's extrinsic aspiring might focus on supporting parents to understand their own relationships with extrinsic aspirations and minimize the extent that wealth, image, and fame are endorsed and modeled (Kasser, 2016; Kasser et al., 2014). Extrinsic aspirations may also be minimized by supporting parents to reduce need frustrating behaviors. Strategies could involve supporting parents to explore the function behind their use of need frustrating techniques, such as psychological control. For example, some parents who exhibit psychologically controlling parenting practices do so with the intention of supporting their child to live a good life. However, they may not realize that adopting psychologically controlling practices or forcing values upon their child may restrict their autonomy and be counterproductive in working toward the development of intrinsic aspirations and well-being.

We highlighted that parents have the capacity to impact the aspirations that their children hold. Too much emphasis and modeling on the 'things' they should acquire, the 'fame' they could achieve, and the way they should 'look', is unlikely to lead to a path of authentic well-being. Instead, creating the environmental conditions that satisfy their psychological needs will optimize their ability to set goals in ways that bring well-being through personal growth, authentic connections, community, and health.

References

*Ahn, J. S., & Reeve, J. (2020). Developmental pathways of preadolescents' intrinsic and extrinsic values: The role of basic psychological seeds satisfaction. *European Journal of Personality*, *35*(2), 151-167. https://doi.org/10.1002/per.2274

Anic, P., & Toncic, M. (2013). Orientations to happiness, subjective well-being and life goals. *Psychological Topics 22*(1), 135-153.

Assor, A. (2018). The striving to develop an authentic inner compass as a key component of adolescents' need for autonomy: Parental antecedents and effects on identity, well-being, and resilience. In B. Soenens, M. Vansteenkiste, & S. Van Petegem (Eds.), *Autonomy in adolescent development: Towards conceptual clarity* (1st ed., Vol. 1, pp. 119–144). Routledge. https://doi.org/10.4324/9781315636511-6

*Baker, A. M., Moschis, G. P., Benmoyal-Bouzaglo, S., & Pizzutti dos Santos, C. (2013). How family resources affect materialism and compulsive buying: A cross-country life course perspective. *Cross-Cultural Research*, *47*(4), 335–362. https://doi.org/10.1177/1069397112473074

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality & Social Psychology Bulletin*, *37*(11), 1459–1473. https://doi.org/10.1177/0146167211413125

Boggiano, A. K. (1998). Maladaptive achievement patterns: A test of a diathesis-stress analysis of helplessness. *Journal of Personality and Social Psychology, 74*, 1681–1695. https://doi.org/10.1037/0022-3514.74.6.1681

Bowman, N. A. (2012). Effect sizes and statistical methods for meta-analysis in higher education. *Research in Higher Education, 53*, 375–382. http://dx.doi.org/10.1007/s11162-011-9232-5

Bradshaw, E. L., Duineveld, J. J., Conigrave, J. H., Steward, B. A., Ferber, K. A., & Ryan, R. M. (2023) Disentangling autonomy and control: A meta-analytic examination of the dual-process model in parenting [Unpublished manuscript].

*Bredehoft, D., & Ralston, E. (2008). *Factors Connecting Childhood Overindulgence and Adult Life Aspirations Executive Summary Study 6*. [Unpublished manuscript]. Social and Behavioral Sciences Department, Concordia University, St.Paul, MN. https://www.researchgate.net/publication/238088595

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

*Burroughs, J. E., & Rindfleisch, A. (1997). Materialism as a coping mechanism: An inquiry into family disruption. *ACR North American Advances*.

*Chaplin, L. N., & John, D. R. (2010). Interpersonal influences on adolescent materialism: A new look at the role of parents and peers. *Journal of Consumer Psychology: The Official Journal of the Society for Consumer Psychology*, *20*(2), 176–184. https://doi.org/10.1016/j.jcps.2010.02.002

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, *39*(2), 216–236. https://doi.org/10.1007/s11031-014-9450-1

Cheung, M. (2014). Modeling dependent effect sizes with three-level meta-analyses: A structural equation modeling approach. *Psychological Methods*, *19*, 211–229. http://doi: 10.1037/a0032968

*Chew, E., & Wang, J. (2008). Perceptions of parental autonomy support and control, and aspirations of student athletes in Singapore. In M. Chia & J. Chiang (Eds.), *Sport*

Science and Studies in Asia (pp. 231-248). Taiwan: World Scientific. https://doi.org/10.1142/9789814304092_0015

*Chia, S. C. (2010). How social influence mediates media effects on adolescents' materialism. *Communication Research*, *37*(3), 400–419. https://doi.org/10.1177/0093650210362463

Conger, R. D., Patterson, G. R., & Ge, X. (1995). It takes two to replicate: A mediational model for the impact of parents' stress on adolescent adjustment. *Child Development*, *66*(1), 80–97. https://doi.org/10.1111/j.1467-8624.1995.tb00857.x

*Dávila, C. M., & Singh, J. J (2017). A world beyond family: How external factors impact the level of materialism in children. *The Journal of Consumer Affairs*, *51*(1), 162–182. https://doi.org/10.1111/joca.12103

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, *19*(2), 109–134. https://doi.org/10.1016/0092-6566(85)90023-6

Deci, E. L., & Ryan, R. M. (2000). The "what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development*, *65*(2), 649–665. https://doi.org/10.1111/j.1467-8624.1994.tb00774.x

*Duriez, B. (2011). Adolescent ethnic prejudice: Understanding the effects of parental extrinsic versus intrinsic goal promotion. *The Journal of Social Psychology*, *151*(4), 441–454. https://doi.org/10.1080/00224545.2010.490571

*Duriez, B., Giletta, M., Kuppens, P., & Vansteenkiste, M. (2013). Extrinsic relative to intrinsic goal pursuits and peer dynamics: Selection and influence processes among

adolescents. *Journal of Adolescence*, *36*(5), 925–933. https://doi.org/10.1016/j.adolescence.2013.07.009

*Flouri, E. (2004). Exploring the relationship between mothers' and fathers' parenting practices and children's materialist values. *Journal of Economic Psychology*, *25*(6), 743–752. https://doi.org/10.1016/j.joep.2003.06.005

*Fu, X., Kou, Y., & Yang, Y. (2015). Materialistic values among Chinese adolescents: Effects of parental rejection and self-esteem. *Child & Youth Care Forum*, *44*(1), 43–57. https://doi.org/10.1007/s10566-014-9269-7

Funder, D. C., & Ozer, D. J. (2019). Evaluating Effect Size in Psychological Research: Sense and Nonsense. *Advances in Methods and Practices in Psychological Science* 2 (2): 156–68. https://doi.org/https://doi.org/10.1177/2515245919847202

Greenhalgh, T., & Peacock, R. (2005). Effectiveness and efficiency of search methods in systematic reviews of complex evidence: Audit of primary sources. *Bmj*, *331*(7524), 1064-1065. doi/10.1136/bmj.38636.593461.68

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. 78–99). New York: Wiley.

Grolnick, W. S., Gurland, S. T., Jacob, K. F., & Decourcey, W. (2002). The development of self-determination in middle childhood and adolescence. In A. Wigfield & J.S. Eccles (Eds.), *Development of achievement motivation* (pp. 147–171). San Diego, CA: Academic Press. https://doi.org/10.1016/B978-012750053-9/50008-5

Grolnick, W. S., Weiss, L., McKenzie, L., & Wrightman, J. (1996). Contextual, cognitive, and adolescent factors associated with parenting in adolescence. *Journal of Youth and Adolescence*, *25*(1), 33–54. https://doi.org/10.1007/BF01537379

*Grougiou, & Moschis, G. P. (2015). Antecedents of young adults' materialistic values. *Journal of Consumer Behaviour*, *14*(2), 115–126. https://doi.org/10.1002/cb.1505

Grouzet, F. M. E., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., Ryan, R. M., Saunders, S., Schmuck, P., & Sheldon, K. M. (2005). The structure of goal contents across 15 cultures. *Journal of Personality and Social Psychology*, *89*(5), 800–816. https://doi.org/10.1037/0022-3514.89.5.800

Grusec, J. E. (1994). Social learning theory and developmental psychology: The legacies of Robert R. Sears and Albert Bandura. In R. D. Parke, P. A. Ornstein, J. J. Rieser, & C. Zahn-Waxler (Eds.), *A century of developmental psychology.* (pp. 473–497). American Psychological Association. https://doi.org/10.1037/10155-016

Hart, D., & Carlo, G. (2005). Moral development in adolescence. *Journal of Research on Adolescence: The Official Journal of the Society for Research on Adolescence*, *15*(3), 223–233. https://doi.org/10.1111/j.1532-7795.2005.00094.x

Hein, V., Koka, A., & Hagger, M. S. (2015). Relationships between perceived teachers' controlling behaviour, psychological need thwarting, anger and bullying behaviour in high-school students. *Journal of Adolescence*, *42*, 103–114. https://doi.org/10.1016/j.adolescence.2015.04.003

*Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages, and paternal attitudes predict college women's attitudes about cosmetic surgery. *Psychology of Women Quarterly*, *33*(1), 133–142. https://doi.org/10.1111/j.1471-6402.2008.01480.x

Hill, R. (1949). *Families under stress: Adjustment to the crisis of war, separation and reunion*. New York: Harper & Row.

Hinde, S., & Spackman, E. (2015). Bidirectional citation searching to completion: An

exploration of literature searching methods. *PharmacoEconomics*, *33*(1), 5–11. https://doi.org/10.1007/s40273-014-0205-3

Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings* (2nd ed.). Thousand Oaks, CA: Sage.

Jackson, A. P., Brooks-Gunn, J., Huang, C. C., & Glassman, M. (2000). Single mothers in low-wage jobs: Financial strain, parenting, and preschoolers' outcomes. *Child Development*, *71*(5), 1409–1423. https://doi.org/10.1111/1467-8624.00236

Joussemet, M., Mageau, G. A., Larose, M.-P., Briand, M., & Vitaro, F. (2018). How to talk so kids will listen & listen so kids will talk: A randomized controlled trial evaluating the efficacy of the how-to parenting program on children's mental health compared to a wait-list control group. *BMC Pediatrics*, *18*(1), 257. https://doi.org/10.1186/s12887-018-1227-3

Kasser, T. (2004). The good life or the goods life? Positive psychology and personal well-being in the culture of consumption. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 55–67). Hoboken, NJ: Wiley.

Kasser, T. (2016). Materialistic values and goals. *Annual Review of Psychology*, *67*, 489–514. https://doi.org/10.1146/annurev-psych-122414-033344

*Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., Árnadóttir, O., Bond, R., Dittmar, H., Dungan, N., & Hawks, S. (2014). Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion*, *38*(1), 1–22. https://doi.org/10.1007/s11031-013-9371-4

Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, *65*(2), 410–422. https://doi.org/10.1037/0022-3514.65.2.410

Kasser, T., & Ryan, R. M. (1996). Further examining the american dream: Differential correlates of intrinsic and extrinsic goals. *Personality & Social Psychology Bulletin, 22*(3), 280–287. https://doi.org/10.1177/0146167296223006

Kasser, T., & Ryan, R. M. (2001). *Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals*. In P. Schmuck & K. M. Sheldon (Eds.), Life goals and well-being: Towards a positive psychology of human striving (pp. 116-131). Ashland, OH: Hogrefe & Huber. https://psycnet.apa.org/record/2001-01629-007

*Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology*, *31*(6), 907–914. https://doi.org/10.1037/0012-1649.31.6.907

Kasser, V., & Ryan, R. M. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being, and mortality in a nursing home. *Journal of Applied Social Psychology, 29*, 935-454. https://doi.org/10.1111/j.1559-1816.1999.tb00133.x

Kytle, J., & Bandura, A. (1978). Social learning theory. *Contemporary Sociology*, *7*(1), 84. https://doi.org/10.2307/2065952

La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close relationships. *Canadian Psychology/Psychologie Canadienne, 49*(3), 201–209. https://doi.org/10.1037/a0012760

*Lekes, N., Gingras, I., Philippe, F. L., Koestner, R., & Fang, J. (2010). Parental autonomy-support, intrinsic life goals, and well-being among adolescents in China and North America. *Journal of Youth and Adolescence, 39*(8), 858–869. https://doi.org/10.1007/s10964-009-9451-7

*Lekes, N., Joussemet, M., Koestner, R., Taylor, G., Hope, N. H., & Gingras, I. (2011). Transmitting intrinsic value priorities from mothers to adolescents: The moderating role

of a supportive family environment. *Child Development Research, 2011*. https://doi.org/10.1155/2011/167146

*Li, J., Wang, X., Wu, X., & Guo, Y. (2021). Early material parenting and adolescents' materialism: the mediating role of overt narcissism. *Current Psychology (New Brunswick, N.J.)*. https://doi.org/10.1007/s12144-021-02196-3

*Liu, M., & Koivula, A. (2023). Greed doesn't grow on trees: the indirect association between proenvironmental behaviour and materialism through adolescents' psychological entitlement. *Young Consumers, 24*(1), 1–17. https://doi.org/10.1108/YC-09-2021-1388

*Manchiraju, S., & Son, J. (2014). Materialistic (and unhappy?) adult now, economically deprived child then: How are felt formative economic deprivation, materialism, and well-being measures related. *Journal of Business and Management Research*, *5*, 125-127.

Moulton, V., Flouri, E., Joshi, H., & Sullivan, A. (2015). The role of aspirations in young children's emotional and behavioural problems. *British Educational Research Journal*, *41*(6), 925–946. https://doi.org/10.1002/berj.3188

*Murdock. (2013). *Do perceptions of parental goal promotion and autonomy support explain the relationship between generational status and academic processes and outcomes?* [Unpublished dissertation] University of Oklahoma.

*Mouratidis, A., Vansteenkiste, M., Lens, W., Michou, A., & Soenens, B. (2013). Within-person configurations and temporal relations of personal and perceived parent-promoted aspirations to school correlates among adolescents. *Journal of Educational Psychology*, *105*(3), 895–910. https://doi.org/10.1037/a0032838

*Nguyen, H. V., Moschis, G. P., Shannon, R., & Gotthelf, K. (2009). The effects of family structure and socialization influences on compulsive buying: A life course study in

Thailand. *Journal of Global Academy of Marketing Science*, *19*(2), 27–39. https://doi.org/10.1080/12297119.2009.9707289

Nickerson, C., Schwarz, N., Diener, E., & Kahneman, D. (2003). Zeroing in on the dark side of the American Dream: A closer look at the negative consequences of the goal for financial success. *Psychological Science*, *14*(6), 531–536. https://doi.org/10.1046/j.0956-7976.2003.psci_1461.x

*Nicolotti, M., Marini, E., & Magrin, M. E. (2018). Well-being orientations within the family: hypotheses of intergenerational transmission [Poster presentation]. EHPS.

Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2010). Self-determination theory and the relation of autonomy to self-regulatory processes and personality development. In *Handbook of personality and self-regulation* (pp. 169–191). Wiley-Blackwell. https://doi.org/10.1002/9781444318111.ch8

*Nishimura, T., Bradshaw, E. L., Deci, E. L., & Ryan, R. M. (2021). Satisfaction of basic psychological needs in an interdependence model of fathers' own aspirations and those of their adolescent children. *Social Development*, *30*(1), 293–310. https://doi.org/10.1111/sode.12473

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ* , *372*, n71. https://doi.org/10.1136/bmj.n71

Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology*, *92*(3), 434–457.

https://doi.org/10.1037/0022-3514.92.3.434

Peterson, R. A., & Brown, S. P. (2005). On the use of beta coefficients in meta-analysis. *Journal of Applied Psychology, 90*, 175–181. http://dx.doi.org/10.1037/0021-9010.90.1.175

*Pinto, M. de R., Mota, A. O., Leite, R. S., & Alves, R. C. (2017). Investigating the influencers of materialism in adolescence. *Tourism & management studies*, *13*(1), 66–74. https://doi.org/10.18089/tms.2017.13109

*Poraj-Weder, M. (2014). Perceived parental upbringing and the materialism of young adults. *SAGE Open*, *4*(2). https://doi.org/10.1177/2158244014537499

*Poraj-Weder, M. (2018). Overabundance and privation as predictors of materialism in young adults. *Roczniki Psychologiczne*, *21*(3), 207-229.

*Proctor, C., Tweed, R. G., & Morris, D. B. (2021). Unconditional positive self-regard: The role of perceived parental conditional regard. *The Humanistic Psychologist*, *49*(3), 400.

R Core Team. (2020). R: A language and environment for statistical computing (Version 2022.07.01). In R Foundation for Statistical Computing. http://www.r-project.org

Robinson, K. A., Dunn, A. G., Tsafnat, G., & Glasziou, P. (2014). Citation networks of related trials are often disconnected: Implications for bidirectional citation searches. *Journal of clinical epidemiology*, *67*(7), 793-799. doi.org/10.1016/j.jclinepi.2013.11.015

*Richins, & Chaplin, L. N. (2015). Material Parenting: How the use of goods in parenting fosters materialism in the next generation. *The Journal of Consumer Research*, *41*(6), 1333–1357. https://doi.org/10.1086/680087

*Rindfleisch, A., Burroughs, J. E., & Denton, F. (1997). Family structure, materialism, and compulsive consumption. *The Journal of Consumer Research*, *23*(4), 312–. https://doi.org/10.1086/209486

*Roberts, J. A., Manolis, C., & Tanner Jr, J. F. (2003). Family structure, materialism, and compulsive buying: A reinquiry and extension. *Journal of the Academy of Marketing Science*, *31*(3), 300–311. https://doi.org/10.1177/0092070303031003007

Robichaud, J.-M., Roy, M., Ranger, F., & Mageau, G. A. (2020). The impact of environmental threats on controlling parenting and children's motivation. *Journal of Family Psychology*, *34*(7), 804–813. https://doi.org/10.1037/fam0000657

*Roman, N. V., Davids, E. L., Moyo, A., Schilder, L., Lacante, M., & Lens, W. (2015). Parenting styles and psychological needs influences on adolescent life goals and aspirations in a South African setting. *Journal of Psychology in Africa*, *25*(4), 305–312. https://doi.org/10.1080/14330237.2015.1078087

*Rothman, A.M. (2009). *Affluent adolescents: Attachment, entitlement, and subjective well-being*. [Unpublished dissertation]. Adelphi University.

*Russell, C. A, & Shrum, L. J. (2021). The cultivation of parent and child materialism: A parent–child dyadic study. *Human Communication Research*, *47*(3), 284–308. https://doi.org/10.1093/hcr/hqab004

Ryan, R. M., Bernstein, J. H., & Brown, K. W. (2010). Weekends, work, and well-being: Psychological need satisfactions and day of the week effects on mood, vitality, and physical symptoms. In *Journal of Social and Clinical Psychology; New York* (Vol. 29, Issue 1, pp. 95–122). Guilford Press. https://doi.org/10.1521/jscp.2010.29.1.95

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist,* 55, 68 –78. http://dx.doi.org/10.1037/0003-066X.55.1.68

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

Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy

disturbances in self-development and psychopathology: Research on motivation, attachment, and clinical process. In D. Cicchetti (Ed.), *Developmental psychopathology: Vol. 1. Theory and method* (3rd ed., pp. 385-438). New York: Wiley.

Ryan, R. M., Sheldon, K. M., Kasser, T., & Deci, E. L. (1996). All goals were not created equal: An organismic perspective on the nature of goals and their regulation. In P. M. Gollwitzer, & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 7–26). New York: Guilford.

Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, *32*(3), 268–290. https://doi.org/10.1177/0022022101032003002

*Sekarasih, L. (2015). Parents' television viewing and the cultivation of materialism among families with young adult offspring [Unpublished Dissertation]. University of Massachusetts Amherst.

*Sheldon, K. M., Arndt, J., & Houser-Marko, L. (2003). In search of the organismic valuing process: The human tendency to move towards beneficial goal choices. *Journal of Personality*, *71*(5), 835–869. https://doi.org/10.1111/1467-6494.7105006

Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The independent effects of goal contents and motives on well-being: It's both what you pursue and why you pursue it. *Personality & Social Psychology Bulletin*, *30*(4), 475–486. https://doi.org/10.1177/0146167203261883

Şimşek, Ö. F., & Demir, M. (2013). Parental support for basic psychological needs and happiness: The importance of sense of uniqueness. *Social Indicators Research*, *112*(3), 661–678. https://doi.org/10.1007/s11205-012-0075-z

Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory.

Developmental Review, *30*(1), 74-99. doi:10.1016/j.dr.2009.11.001

Soenens, B., Wuyts, D., Vansteenkiste, M., Mageau, G. A., & Brenning, K. (2015). Raising trophy kids: The role of mothers' contingent self-esteem in maternal promotion of extrinsic goals. *Journal of Adolescence*, *42*, 40–49. https://doi.org/10.1016/j.adolescence.2015.04.001

Sterne, J., Egger, M., & Moher, D. (2011). Addressing reporting biases. In J. Higgins & S. Green (Eds.), *Cochrane handbook for systematic reviews of intervention* (Version 5.1.0). http://handbook.cochrane.org/

*Sutton, C. (2013). Adolescent materialism, parental and peer materialism, parental and peer support and adolescent well-being. (masters thesis) University of Bedfordshire.

*Tessier, J., Joussemet, M., Kurdi, V., & Mageau, G. A. (2023). How perceived detrimental parenting relates to adolescents' intrinsic and extrinsic values. *Journal of Child and Family Studies*. https://doi.org/10.1007/s10826-022-02483-y

Unanue, W., Dittmar, H., Vignoles, V. L., & Vansteenkiste, M. (2014). Materialism and well–being in the UK and Chile: Basic need satisfaction and basic need frustration as underlying psychological processes. *European Journal of Personality*, *28*(6), 569–585. https://doi.org/10.1002/per.1954

van de Schoot, R., de Bruin, J., Schram, R., Zahedi, P., de Boer, J., Weijdema, F., Kramer, B., Huijts, M., Hoogerwerf, M., Ferdinands, G., Harkema, A., Willemsen, J., Ma, Y., Fang, Q., Hindriks, S., Tummers, L., & Oberski, D. L. (2021). An open source machine learning framework for efficient and transparent systematic reviews. *Nature Machine Intelligence*, *3*(2), 125–133. https://doi.org/10.1038/s42256-020-00287-7

Wang, Z., Taylor, K., Allman-Farinelli, M., Armstrong, B., Askie, L., Ghersi, D., McKenzie, J., Norris, S., Page, M., Rooney, A., & Woodruff T, Bero L. (2019) *A systematic review: Tools for assessing methodological quality of human observational*

studies. NHMRC. https://doi.org/10.31222/osf.io/pnqmy.

*Williams, K. E., & Ciarrochi, J. (2020). Perceived parenting styles and values development: A longitudinal study of adolescents and emerging adults. *Journal of Research on Adolescence: The Official Journal of the Society for Research on Adolescence*, *30*(2), 541–558. https://doi.org/10.1111/jora.12542

*Williams, G. C., Hedberg, V. A., Cox, E. M., & Deci, E. L. (2000). Extrinsic life goals and health-risk behaviors in adolescents. *Journal of Applied Social Psychology*, *30*(8), 1756–1771. https://doi.org/10.1111/j.1559-1816.2000.tb02466.x

*Wright, A. N. (2012). *Value development in emerging adulthood: The influence of family* [Unpublished dissertation]. University of North Texas.

Wu, Q., & Xu, Y. (2020). Parenting stress and risk of child maltreatment during the COVID-19 pandemic: A family stress theory-informed perspective. *Developmental Child Welfare*, *2*(3), 180–196. https://doi.org/10.1177/2516103220967937

Yu, S., Assor, A., & Liu, X. (2015). Perception of parents as demonstrating the inherent merit of their values: Relations with self-congruence and subjective well-being. *International Journal of Psychology*, *50*(1), 70–74. https://doi.org/10.1002/ijop.12074

*Zawadzka, A. M., Iwanowska, M., & Borchet, J. (2018). The role of parents, social media and materialism in teenage activism. *Social Psychological Bulletin*, *13*(4), 1–17. https://doi.org/10.32872/spb.v13i4.26706

*Zawadzka, A. M., Iwanowska, M., & Borchet, J. (2020). The role of teenagers' materialism and self-esteem, parental materialism, and family SES in achievement goal orientations of adolescents. *Materializm–przyczyny i konsekwencje*, *331*.

*Zawadzka, A. M., Kasser, T., Niesiobędzka, M., Lewandowska-Walter, A., & Górnik-Durose, M. (2022). Environmental correlates of adolescent' materialism: Interpersonal

role models, media exposure, and family socio-economic status. *Journal of Child and Family Studies*, *31*(5), 1427–1440. https://doi.org/10.1007/s10826-021-02180-2

*Zawadzka, A. M., Lewandowska-Walter, A., Borchet, J., & Iwanowska, M. (2022). Risk factors for materialistic attitudes and values of teenagers - role of parents and peers. *Journal of Family Studies*, *ahead-of-print*(ahead-of-print), 1–18. https://doi.org/10.1080/13229400.2022.2060120

Zemojtel-Piotrowska, M., Piotrowski, J., & Clinton, A. (2015). Materialism subjective well-being and psychological entitlement: Interplay between materialism and social functioning. *Ceskoslovenska Psychologie; Praha*, *59*(1), 56–66.

Supplementary Materials

Table of Contents

Supplementary aterials 1: Reasons for exclusion

Table S1

Reasons for exclusion from the systematic review and meta-analysis.

Reason	Frequency
No parent measure	8
No aspiration measure	16
Not a measure of intrinsic or extrinsic aspirations	8
Data not available	4
Wrong design	3
Duplicate data	1

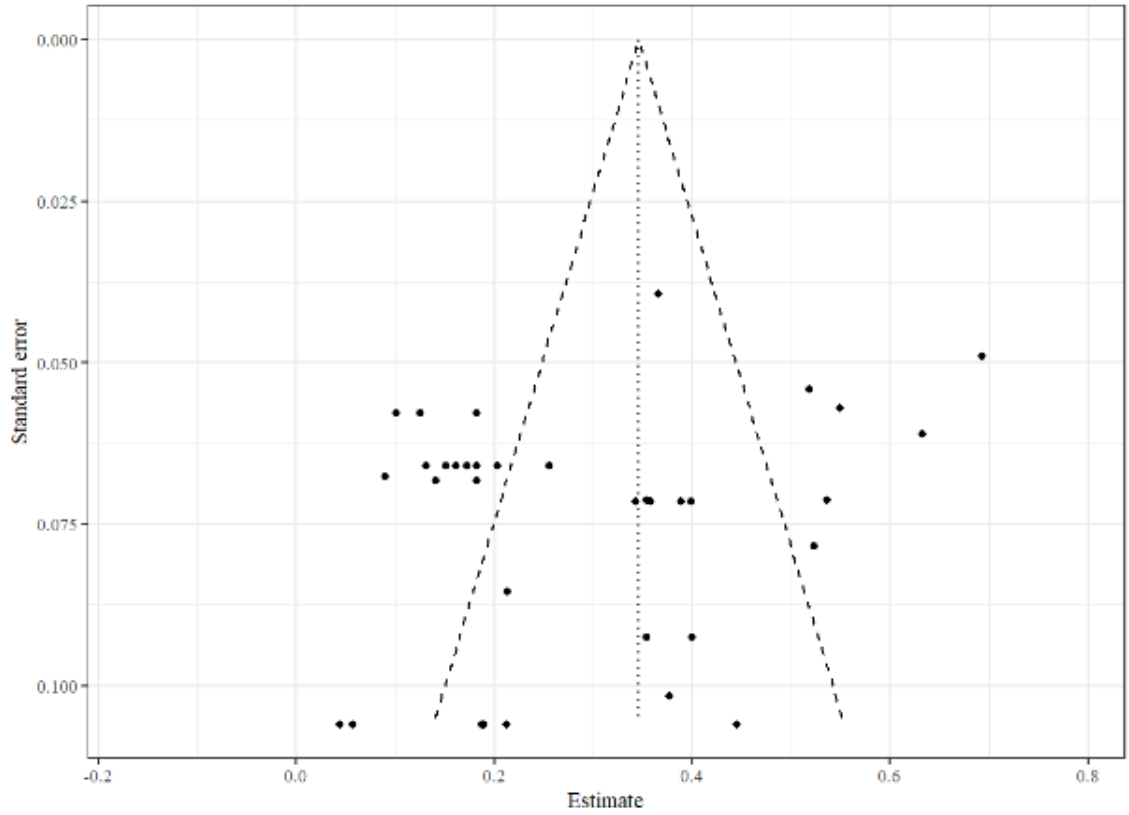
Supplementary Materials 2: Results of publication bias tests

Parent Extrinsic and Child Extrinsic aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S1).

Figure S1

Funnel plot of the fisher-z transformed correlation between parent extrinsic aspirations and child extrinsic aspirations.

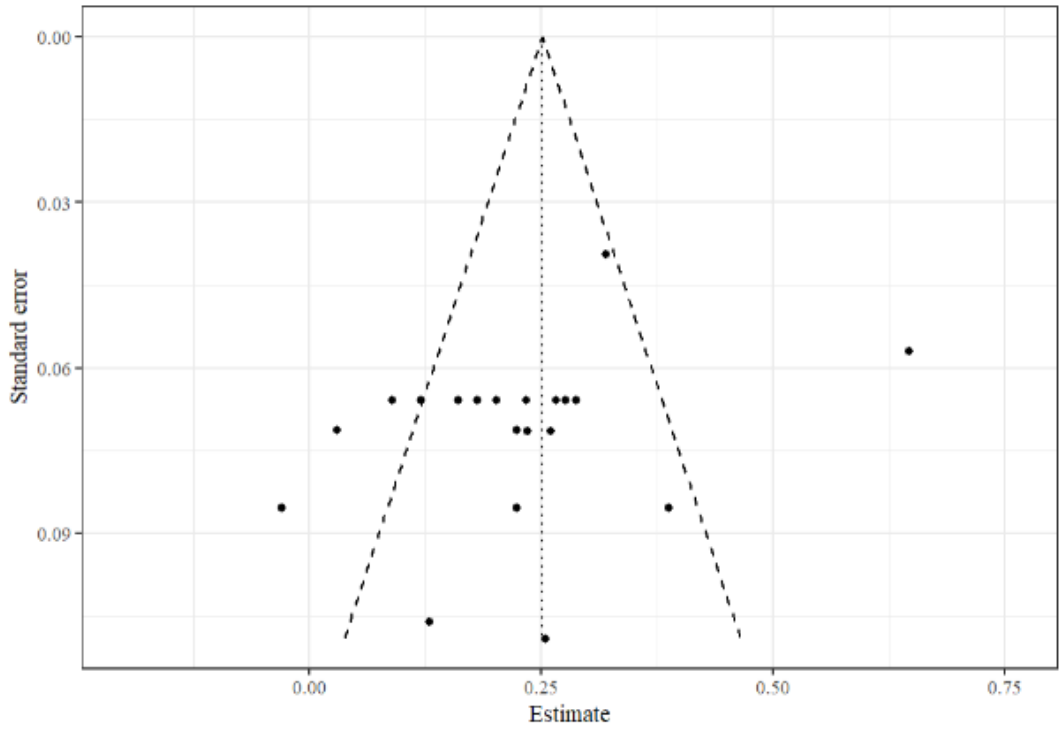


Parent Intrinsic and Child Intrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S2).

Figure S2

Funnel plot of the fisher-z transformed correlation between parent intrinsic aspirations and child intrinsic aspirations.

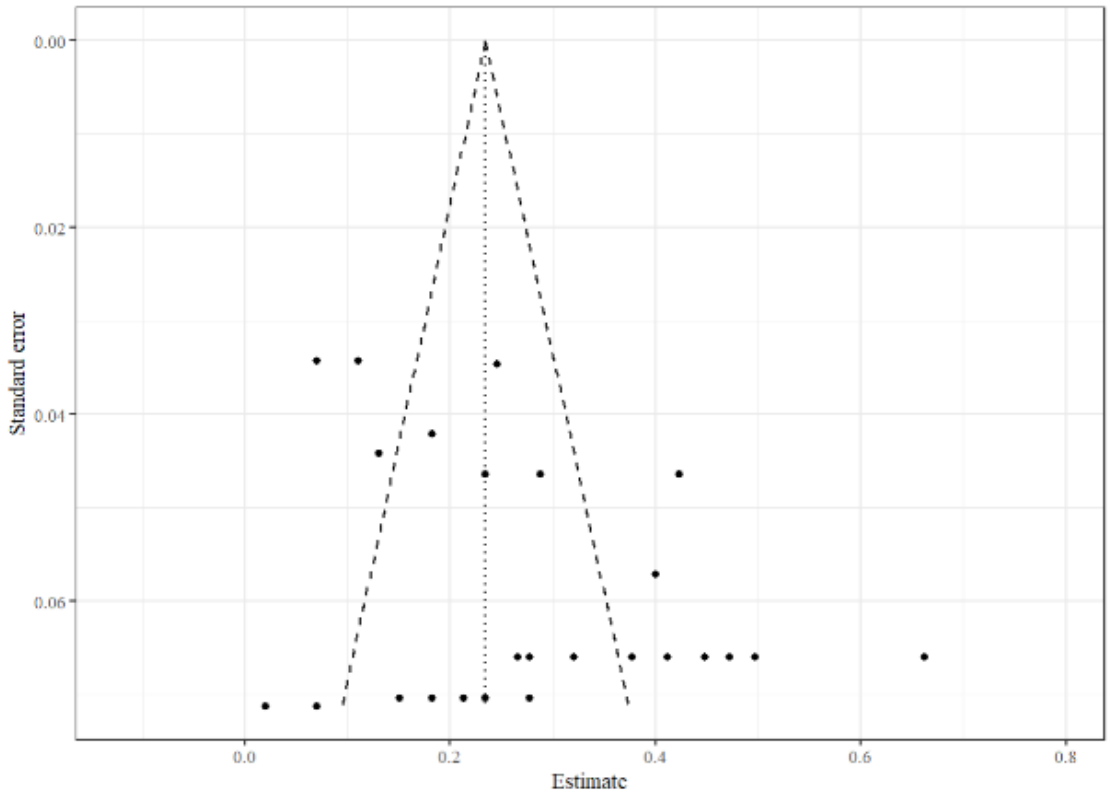


Need Supportive Parenting and Intrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S3).

Figure S3

Funnel plot of the fisher-z transformed correlation between need supportive parenting and intrinsic child aspirations.

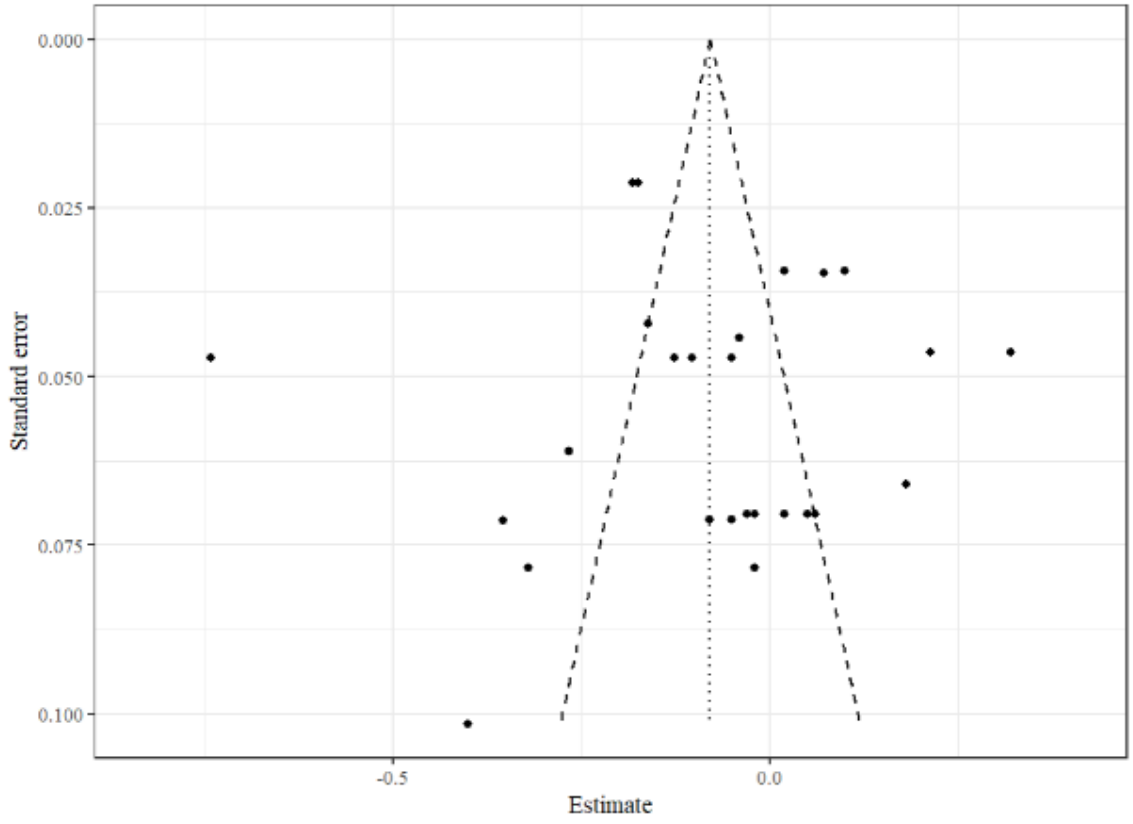


Need Supportive Parenting and Extrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S4).

Figure S4

Funnel plot of the fisher-z transformed correlation between need supportive parenting and child extrinsic aspirations.

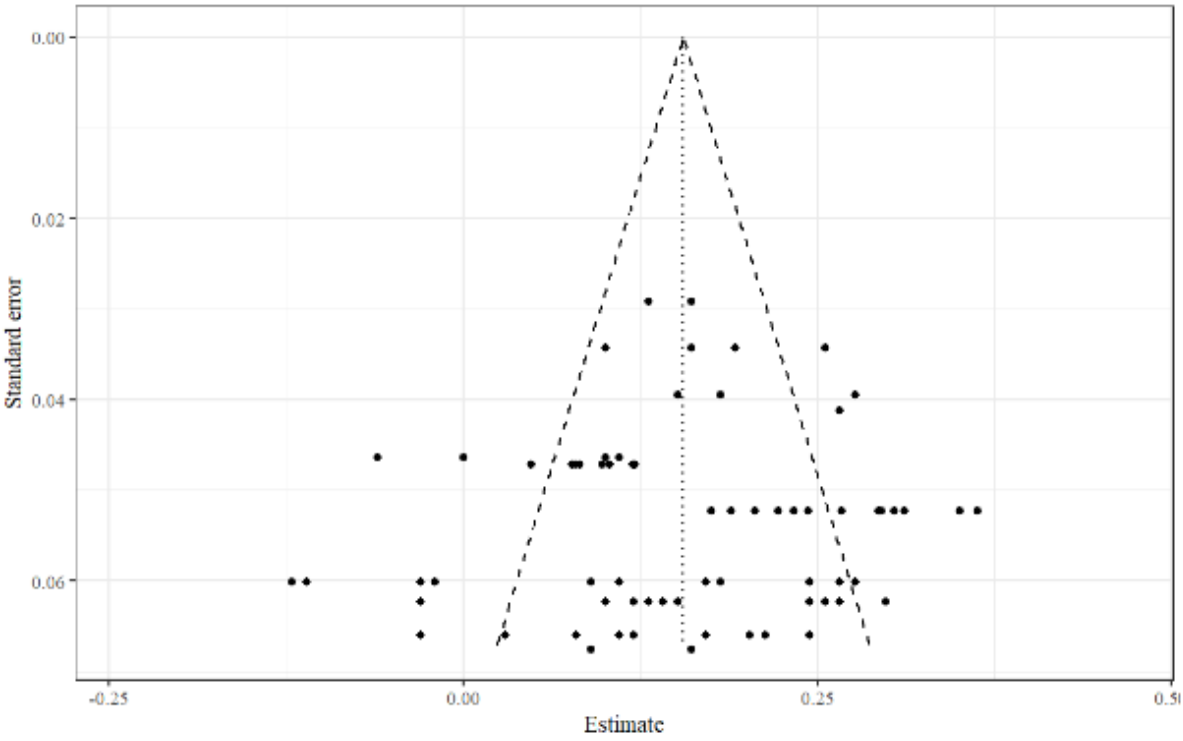


Need Frustrating Parenting and Extrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S5).

Figure S5

Funnel plot of the fisher-z transformed correlation between need frustrating parenting and extrinsic child aspirations.

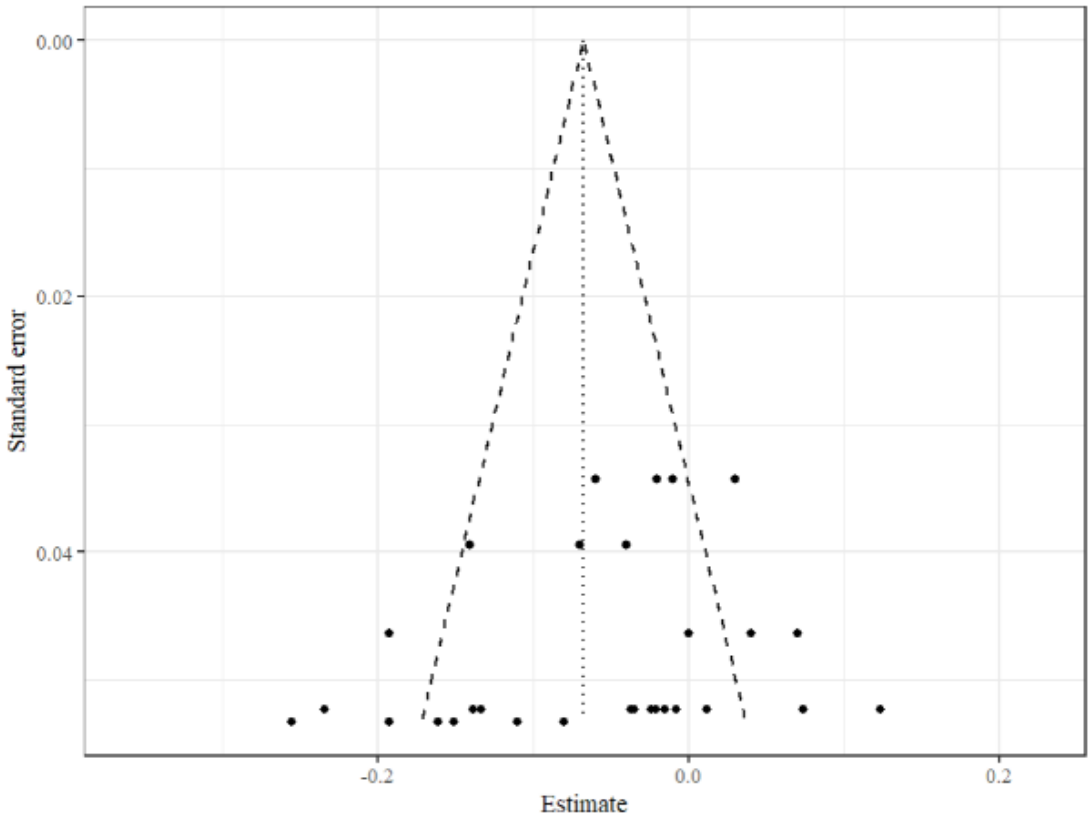


Need Frustrating Parenting and Intrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S6).

Figure S6

Funnel plot of the fisher-z transformed correlation between need frustrating parenting and intrinsic child aspirations.

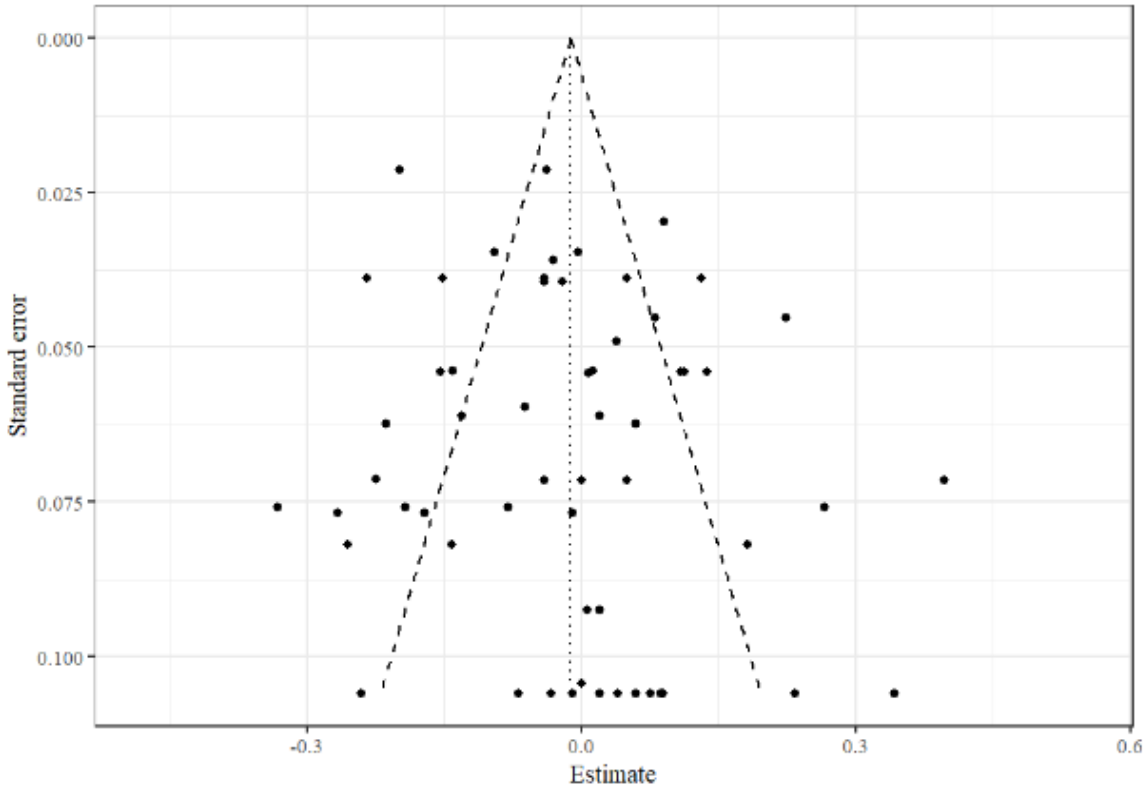


Indicators of Parent Stress and Extrinsic Aspirations

The Egger's test did not indicate the presence of funnel plot asymmetry. The funnel plot indicated that the effects sizes were spread symmetrically (Figure S7).

Figure S7

Funnel plot of the fisher-z transformed correlation between indicators of parent stress and extrinsic child aspirations.



General Discussion

The principal aim of this thesis was to investigate the development and stability of intrinsic and extrinsic aspirations of the same people over time, and to explore how their aspiration orientations influenced their well-being later in life as well as the role parents play in shaping those orientations. The thesis sought to evaluate the claims of goal contents theory using qualitative data, and whether evidence would be found for the premise that optimising intrinsic goals that directly satisfy basic psychological needs, enhances well-being. By examining qualitative data over a 40-year period, this thesis offers a unique contribution to the field and provides insights into how individuals can be supported in goal-setting to optimise their well-being throughout life.

The identification of intrinsic and extrinsic aspirations in naturally occurring language was a key component of this thesis, requiring the selection of a qualitative coding system for analysis. In Chapter 2, I conducted a study to evaluate three coding systems-a computer rater text search system, a human rater count system, and a human rater thematic system. The results indicated that the thematic human coding system was the most valid, correlating highly with the quantitative tool the Aspiration Index.

In Chapters 3 and 4, the thematic coding system was applied to analyse qualitative data from a longitudinal dataset (NCDS) to determine the stability of aspirations over time and their relationship with well-being. I used a mixed-methods approach that involved coding the essays that approximately 4000 individuals wrote about their goals at age 11, and again at age 50. The results supported the hypotheses that intrinsic aspirations were relatively stable over time, and that they were positively associated with well-being later in life.

Chapter 5 of this thesis refers to the manuscript (Ferber et al., under review), which synthesised the literature examining the link between parent characteristics and children's aspirations. The findings from the manuscript showed that children's intrinsic aspirations

were higher when parents offered need-supportive environments and endorsed intrinsic aspirations themselves.

In this final chapter I elaborate on the findings in the context of existing literature, discuss several practical and clinical implications, and finish with limitations and suggestions for future research. In particular, I propose that the importance of further research to understand the impact of fostering intrinsic aspiring from childhood is needed. In addition, I emphasise how the development of extrinsic aspirations appears to be nuanced and offer ideas to enhance our understanding of extrinsic aspirations.

Summary of Key Findings

The Link Between Intrinsic Aspirations Over Time

The finding that intrinsic aspirations at age 11 predicted intrinsic aspirations at age 50 offers support for the hypothesis that there is a degree of stability in individuals' intrinsic aspirations over time. Even having two additional intrinsic counts at age 50, predicted by higher intrinsic counts at age 11, holds substantive meaning. Two additional intrinsic counts at age 50 signifies a notable expansion in the pursuit of intrinsic goals, that may not have been as prevalent if individuals had lower levels of intrinsic aspiring at age 11. Little research has explored the stability of intrinsic aspirations over time. That which does exist suggests that the tendency to prioritise intrinsic aspirations in relation to extrinsic aspirations increases with age (Morgan & Robinson, 2013; Sheldon & Kasser, 2001). The findings of this thesis are consistent with research suggesting that intrinsic goals such as personal growth and community giving remain stable in the same individuals (Sheldon, 2005). According to Hope et al. (2016), individuals are more inclined to persistently pursue goals that are intrinsic rather than extrinsic, because they generate more enthusiasm and ease of pursuit. Notably, this chapter extends previous research by demonstrating the stability of intrinsic aspirations over a period of 40 years.

The Link Between Extrinsic Aspirations Over Time.

Contrary to my hypothesis, the results indicated that extrinsic aspirations at age 11 did not predict extrinsic aspirations at age 50. Existing research was mixed, with some suggesting that extrinsic aspirations are stable over time (Jasper & Pieters, 2016; Kasser et al., 2014) while others suggested that the importance of extrinsic aspirations reduced with age (Kasser et al., 2014, Morgan & Robinson, 2013). The absence of a link between age 11 aspirations and aspirations at age 50 suggests there is little within-person stability of extrinsic aspirations between age 11 and 50.

The external, transient nature of extrinsic aspirations could explain the lack of stability over time. Jaspers and Pieters (2016) highlight that people adapt their goals in life depending on factors such as employment, finances, and self-esteem. It is also possible that the language used by children which is seemingly extrinsic, such as desiring multiple properties or becoming a millionaire, does not accurately reflect their enduring goals and priorities as they mature into adulthood. An alternative explanation could be that extrinsic aspirations are more nuanced. For instance, Jaspers and Pieters (2016) found that the pursuit of happiness through materialism was stable, compared to materialism as markers of success or means of luxury. Refined methodological approaches are required to uncover if extrinsic aspiring can more accurately be detected in the language of children.

Trajectories of Aspirations and Well-Being

Support was found for all hypotheses pertaining to the link between intrinsic and extrinsic aspirations and well-being. That is, having an intrinsic aspiration orientation at age 50 was linked to higher levels of well-being than having an extrinsic orientation or no intrinsic or extrinsic aspirations at age 50. Remaining or becoming more intrinsically oriented between age 11 and age 50 was related to increased levels of well-being at age 50. Conversely, well-being declined when individuals remained or became more extrinsically

oriented over time. The findings bolster the abundance of empirical support for the link between intrinsic aspirations and well-being (Bradshaw et al., 2022).

The findings extend previous research, particularly in the domain of childhood aspirations by measuring intrinsic and extrinsic aspirations in naturally occurring language that encompasses goals more broadly, and over longer periods of time than previously studied. Previous research had found support for children's intrinsic aspirations being linked to well-being in a 4-week priming study (Lekes et al., 2012), and intrinsic career (Moulton et al., 2015, 2016). The results of the thesis furthers previous findings by demonstrating far reaching positive benefits of prioritising intrinsic goals from childhood.

The Development of Aspirations

The meta-analysis conducted in Chapter 5 supported the hypothesis that individuals who experienced need support from their parents, and who had parents who pursued intrinsic aspirations themselves were higher in intrinsic aspirations (Ahn & Reeve, 2020; Chew & Wang, 2010; Lekes et al., 2010; Nishimura et al., 2021). The findings of the meta-analysis also supported the hypothesis that individuals who experienced need frustration from their parents or had parents who highly valued extrinsic aspirations, were higher in extrinsic aspirations (Bredehoft, 2008 & Ralston; Costa et al., 2020; Roman et al., 2015; Sheldon et al., 2003). Additional support was garnered from the longitudinal study in Chapter 3, which found that individuals at age 16 who experienced more arguments with their parents about homework, how to spend their spend time, which friends they should have, and how they should dress and do their hair, had less intrinsic aspirations and more extrinsic aspirations at age 50. In addition, experiencing need supportive environments such as getting along with parents at age 16 was associated with having more intrinsic aspirations relative to extrinsic aspirations at age 50. The findings highlight that parents play a crucial role in nurturing their

children's aspirations, and the possible benefits of creating a need supportive environment in the family.

Gender

Support was found for hypotheses surrounding gender, with females having more intrinsic aspirations than males (Kasser et al., 1995; Kasser & Ryan, 1996; Rijavec et al., 2011), while males had more extrinsic aspirations (Kasser & Ryan, 1993). The results also showed that the stability of aspiration orientations over time varied for males and females. Intrinsic aspirations at age 11 predicted intrinsic aspirations at age 50 for females but not males.

Previous research indicates that gender plays a role in the valuing and pursuits of intrinsic and extrinsic aspirations. Variability in males' intrinsic aspiring has been found in previous research, including a rapid decline in intrinsic aspirations between young adulthood and mid-life, followed by an increase between mid-life and older adulthood (Morgan & Robinson, 2013). Societal expectations and gender roles may influence how males and females perceive and pursue their goals. Traditional gender norms often assign different expectations and priorities to males and females. Eccles et al. (1993) suggests that by age 6 or 7, children are already socialised around gender roles. Moulton et al, (2018) suggests that gender roles can be seen in females' preferences for helping roles such as wanting to be hairdressers, teachers, and beauticians. While, males show preferences for power and money, aspiring toward roles such as being a sportsman or entertainer.

SES

The results of the thesis did not support the hypothesis that lower SES during childhood would be associated with higher levels of extrinsic aspirations at age 11 and age 50. This finding is contrary to previous research suggesting that individuals with low SES tend to prioritise extrinsic aspirations over intrinsic ones (Cohen & Cohen, 2013; Kasser et al,

1995). However, the results provided support for the hypothesis that those with essay content indicative of resource deficit would have lower levels of well-being compared to those with content relating to abundance. The findings are in line with the notion that individuals who aspire toward extrinsic aspirations out of deficit may have a larger discrepancy between their current resources, and desires for wealth, and acquisition, which can lower well-being in areas such as life satisfaction (Solberg et al., 2004).

Theoretical Connections

The findings of this thesis support several propositions of GCT, while extending the theory's methodological application and temporal breadth. Central propositions of GCT suggest that "not all goals are created equal" because they vary in the degree to which they satisfy basic psychological needs, and therefore, well-being (Ryan et al., 1995, p 272). The results supported GCT's central proposition that those who prioritise intrinsic aspirations have higher levels of well-being, compared to those with extrinsic aspirations. The thesis extends previous research by demonstrating that this proposition stands true even when employing qualitative methodology to analyse intrinsic and extrinsic aspirations in naturally occurring language. Thereby, broadening the scope and applicability of the theory.

In addition, the thesis expanded the temporal breadth of GCT by examining the link between intrinsic and extrinsic aspirations and their influence on well-being over a remarkable forty-year span. This extensive timeframe had not been previously explored, thereby providing unique insights into the long-term effects of aspirations on individuals' well-being and advancing our understanding of GCT in a longitudinal setting.

Notably, while GCT does not specifically address the stability of aspirations over time, it posits that intrinsic aspirations represent innate tendencies toward growth, integration, and well-being. As such, the identification of stability in intrinsic aspirations between childhood and at mid-life, provides compelling evidence of an individual's potential for

continuous integrative functioning, and well-being. This underscores the rationale behind considering consistent intrinsic aspiring as a predictor of well-being, and sets the stage for further investigating and novel propositions related to the enduring nature of intrinsic aspirations within the framework of GCT.

The results of the thesis offered indications that there are benefits in maintaining and further developing an intrinsic orientation over time. By recognising and enquiring about the long-lasting impact of intrinsic aspirations, the thesis opens up exciting avenues for further exploring aspiration stability. For instance, does the sustained pursuit of intrinsic goals over an extended period result in an accumulation of well-being? Alternatively, can individuals with varying initial aspiration orientations eventually attain similar levels of well-being, if they were to adopt consistent intrinsic aspiring at later life stages?

The findings of this thesis also support GCT's propositions concerning the development of aspirations. Prior to this research, no meta-analysis has systematically examined the link between parent characteristics and their children's intrinsic and extrinsic aspirations. The findings of the meta-analysis and longitudinal studies in this thesis highlight the relevance of proximal environments in the development of intrinsic and extrinsic aspirations. The studies reinforce the power of parent influence in shaping children's aspirations. It also shines light on how GCT could be expanded considering factors such as parent type, how role modelling occurs, as well recognising the work that needs to be done in understanding the mechanisms of aspiration development.

Overall, the findings of this thesis support and extend the propositions of GCT, and shed light on new avenues for explorations within the framework.

Practical Implications

In detailing the practical implications of this thesis, three main themes emerge relevant to goal setting, parenting, education, and employment. First, I propose that goal

setting should be treated as a lifelong skill, starting from early development. Second, what constitutes a 'good life' should be informed by a rich eudaimonic perspective. Third, it is crucial to encourage children and individuals to understand their relationship with intrinsic and extrinsic aspirations, and regulate their pursuit accordingly. Next, I will elaborate on each of these themes, and in the subsequent section explore their clinical implications.

Goal Setting as a Lifelong Skill

As the development of intrinsic aspirations is already emerging in childhood, there is clearly utility in broadening our perspective on when optimal goal setting 'begins'. The capacity to impact goal setting begins at childhood. In addition, the selection of healthy, intrinsic goals is nurtured by environments that provide direct need satisfaction, and so the provision of these experiences should be paramount at all stages of life. Goal setting as a lifelong skills requires people to adopt a way of thinking that recognises that the investment in earlier life stages, benefits well-being in later life stages. All the goals we set over a lifetime have the capacity to impact our well-being, and environmental influences that impact our goals can precede the time at which a goal is set. By recognising the impact of early interventions and the role of need supportive environments we can lay a strong foundation for optimal goal setting and, therefore, well-being.

Eudaimonic Informed Goal Setting

This thesis supports a framework of goal-setting with eudaimonic well-being at its core. When people optimise intrinsic goals, such as personal growth, affiliation, community giving, and physical health, several markers of eudaimonic well-being increase (Ryan & Martela, 2016; Ryan et al., 2012). This thesis challenges traditional and hedonic approaches to goal setting that are narrow in focus, often overemphasising career and equating happiness with money, acquisition, and status. Hedonic messages are pervasive in Western societies, with people tending to focus on achieving financial success, gaining recognition, and having

a desirable image. While such goals offer bursts of happiness, they often leave people wanting more, and are not as effective at meeting people's basic psychological needs. Instead, we need to broaden our framework of goal-setting to promote the capacity to prioritise and set goals that will optimise direct need satisfaction. By adopting a framework of goal setting that prioritises intrinsic aspirations, we optimise the possibility of a life of well-being, rich in personal growth, meaning, and fulfilment.

Understand our Relationship with Extrinsic Aspirations

The findings highlighted the nuanced nature of extrinsic aspirations, demonstrating the possibility that extrinsic aspirations may be variable over time. If extrinsic aspirations are more malleable in nature, they could be playing varying roles in an individual's life at any given time. The literature suggests that people pursue wealth and acquisition for various reasons, such as luxury, status, or happiness, and these pursuits may have different impacts on well-being (Jaspers & Pieters, 2016). Therefore, it is important to be discerning about the role that the pursuit of wealth, image, and fame play in people's lives and be able to recognise when such pursuits might be compromising need satisfaction and well-being. As described by Kasser (2002), extrinsic aspirations can be likened to chocolate cake, while intrinsic aspirations are more like nutrient-rich food. Achieving a balance is crucial to ensure that extrinsic aspirations do not overpower intrinsic aspirations, and sufficient nutrients required for optimal well-being are obtained. I propose that in order to achieve an effective balance, we need to know about the function of pursuits involving money, image, and fame, and whether they are serving a purpose of enjoyment, luxury, status, or need substitution. Pursuits of money, image, and fame with the function of need substitution could be a sign that the balance is off. A functional perspective to extrinsic aspirations raises questions such as, how does one know if the balance is off, and how can people effectively reflect and modulate their goal pursuit if the balance is off?

Clinical Implication

The clinical implications of this research extend to three interconnected facets: early intervention strategies, assisting individuals with significant life transitions, and optimising therapeutic interventions.

Early Intervention

Evidence suggests that the development of intrinsic aspirations is emerging in childhood and is associated with need supportive environments (Chapter 2, Chapter 5). Early interventions aimed at optimising intrinsic goal setting could focus on supporting a child's proximal environments to offer need support. Interventions aimed at fostering need supportive environments already exist, and can also be considered for the promotion of children's intrinsic aspirations (Joussemet et al., 2018).

Children who pursued intrinsic aspirations also tended to have parents who tended to pursue intrinsic aspirations (Chapter 5), suggesting that role modelling could be a powerful means of demonstrating the ways that intrinsic aspirations promote well-being. Incorporating age appropriate conversations that helps children to understand concepts such as needs, goals, and well-being could be another means of exposure. Such concepts could be incorporated into children's books and social stories.

Conversely, children who pursued extrinsic aspirations also tended to have parents who pursued extrinsic aspirations (Chapter 5). A means by which extrinsic aspirations could be minimised for children could be by targeting parents' own relationship with extrinsic aspirations. Particularly, if parents are role modelling extrinsic aspirations as means of need substitution, it would be important to educate parents on the transmissibility of such messages.

Life Choices/Transitional Stages

Big decisions and life transitions, such as selecting a career, deciding on relocation, or making other significant life choices, can feel daunting. Adopting a GCT framework could support and inform individuals during these pivotal times. Taking an approach to major life choices and transitional stages that incorporates a GCT perspective, could aid in making decisions that lead to greater need satisfaction, and well-being. Clinicians, teachers, or parents could help individuals to understand that life is composed of a series of smaller decisions and goals, that collectively shape our life path, and associated well-being. Another approach could be to show an interest in and understanding of what people find personally meaningful, even if it may not end up being connected to a future career path. Such strategies may aid people in thinking about their life pursuits in integrated ways that serve to support their well-being. Such approaches could be made more accessible through trialling an intervention aimed at assisting individuals to re-define their version of success. The intervention could provide prompts for self-reflection, guiding individuals to consider their own intrinsic aspirations, and the ways they effectively achieve psychological need satisfaction. It could also offer psych-education about the importance of intrinsic goals and their benefits for well-being. Additionally, it could include interactive features that encourage conversations between adolescents and their parents or caregivers. These prompts could uncover differing views and ideas behind the function and benefits of various career choices, fostering meaningful discussions and promoting deeper understanding of personal aspirations within the family context.

Therapy

There are several ways the findings could be incorporated into a therapy setting. There may be some instances in which a client does show curiosity or interest in completing a tool such as the Aspiration Index (Kasser & Ryan, 1996; Kasser & Ryan, 1993, 2001) to gain

a sense of the importance they place on different life goals. However, a therapist could also be trained to listen for intrinsic and extrinsic aspiration content in naturally occurring language, as in the thematic coding system (Chapter 2). By picking up on the intrinsic and extrinsic content of their client's language, a therapist has a framework to guide them to uncover areas which goals are important to them, working well, and generate conversations about their basic psychological need satisfaction. Such explorations could lead to conversations about whether their goals truly align with their authentic desires or if they are driven by societal pressure or external validation. Other practical strategies could include setting behavioural experiments such as aiming to set more intrinsic goals in a period of a week or two and monitoring markers of well-being (Kasser, 2002).

Strengths and Limitations

A strength of the main analyses pertaining to aspirations over time, and well-being was the longitudinal nature of the data. One of the unique contributions of this thesis is the capacity to examine aspirations and well-being across 40 decades because stronger temporal conclusions can be drawn. While the thesis has provided valuable insights into the development and stability of intrinsic and extrinsic aspirations and their impact on well-being, there are some limitations that must be acknowledged. The main limitation of the meta-analysis on parent characteristics and their children's intrinsic and extrinsic aspirations was that there were too few longitudinal studies to meta-analyse. As such, I can make no conclusions about the causality or temporality of these variables. Even though several of the parent characteristics are thought to precede their children's intrinsic and extrinsic aspirations, conclusions about causality cannot be made. As such, reciprocal relationships in which children's intrinsic and extrinsic aspirations impact the intrinsic and extrinsic aspirations of their parents is plausible. The developmental mechanisms of intrinsic and

extrinsic aspirations remains an area that requires more research to strengthen our understanding.

The main limitation of the longitudinal studies concerned the drawbacks associated with using previously collected qualitative data. The use of previously collected qualitative data meant that there was no capacity to shape questions, influence the environment of the data collection, or seek further clarification or context to answers provided. As a result several approaches had to be taken in order to analyse and interpret the data in reliable ways. Those whose essays were not possible to read, chose not to write an essay or said life would be the same, did not receive an aspiration score as we were not able to fairly and effectively count their intrinsic and extrinsic aspirations. Decisions drawn about aspirational data were made purely on the presence and absence of the content outlined in the thematic coding system. While we believe people will naturally write about the goals they prioritise, we were not able to draw any conclusions on the motivations behind their goals. This means that the study could not determine whether goals were being pursued for controlled or autonomous reasons. If someone aspires to become a doctor out of personal interest or a desire to help others, this would likely fall under the category of an intrinsic goal pursued for autonomous reasons, and may lead to greater well-being. On the other hand, if someone aspires to become a doctor solely for the high earning potential or social status, this would be considered an extrinsic goal pursued for controlled reasons, which may lead to lower well-being. Future qualitative work could broaden the depth of enquiry by asking people to write about the degree to which they select goals that are good for their well-being, or satisfy their needs.

Another limitation is that the study followed only one cohort of participants over a 40-year period from the UK. While this allowed for within-person stability analysis of aspirations over time, the conclusions drawn are limited to the patterns of aspirations relevant to a single cohort. Which means that sociohistorical circumstances and pressures shared by

the group may have influenced the results in ways that are not relevant to other cohorts, affecting the generalizability. Cross-cultural generalizability of the results is also limited as the data collection occurred only in the UK. Future studies could contribute to the field by replicating similar research designs across cohorts, and different cultures.

Future Directions

Though this thesis provides some evidence for the stability of intrinsic aspirations over time, further research is required to gain a deeper understanding of how intrinsic aspirations change within and between people over small and large breadths of time. Longitudinal research that measures individuals' intrinsic aspirations, extrinsic aspirations, and well-being at frequent time points is necessary to determine how much they fluctuate over time, and the cumulative benefits to well-being. More frequent measurements of aspirations over time would also aid in understanding the more nuanced nature of extrinsic aspirations because a clearer picture could be obtained of its malleability.

It is worth noting that the analysis conducted in this dissertation was performed before the widespread application of large language models, such as ChatGPT. These models have shown promising capabilities in processing and understanding natural language. The utilisation of large language models like ChatGPT present an avenue for future research, as they may provide new insights, and improve efficiency in detecting intrinsic and extrinsic goals in naturally occurring language. Future research could also explore intrinsic and extrinsic goal content across varying forms of expression types and contexts. For instance, evaluating qualitative data in the form of unstructured dialogue about goals could provide insight into how to interpret goal content in conversations occurring in day-to-day settings between individuals and their parents, teachers, or therapist. Evaluating oral expression of goal content could also offer an alternative format to access and understand the goal content of children and adults for whom writing poses an obstacle.

A richer understanding of the complexity of extrinsic aspirations could be achieved by research striving to discern at what age content relating to money, image, and fame is a reliable measure of extrinsic aspirations. Subsequently, researchers could develop a more sensitive qualitative coding tool that can pick up on language indicative of extrinsic aspirations with the function of need substitution. Another approach could be to conduct an exploratory analysis of the extrinsic goals of children who score on the lower end of psychological need satisfaction. The content of their essays would provide insight into the language that may signify those who set extrinsic aspirations with the function of need substitution.

Further research is also required to enhance understanding of the personal growth domain. Given the subjective nature of personal growth, it proved to be the most challenging domain to achieve reliability with the Aspiration Index. Delving into the subjective nature of personal growth means exploring how individuals perceive and define personal growth for themselves. Researchers could use methods such as interviews or focus groups, to gain a better understanding of how individuals define and evaluate their own personal growth.

This thesis identifies parents as one of the key stakeholders in impacting the intrinsic and extrinsic goals of their children. Parents have the potential to shape their children's lives, and it's important to understand their beliefs about what constitutes a life of well-being. Qualitative research could be utilised to understand parents' beliefs, goals, and actions pertaining to their children's aspirations. For instance delving into questions such as what they think constitutes a life of well-being, and in what ways they think they influence or hope to influence their child's aspirations.

As our insight and understanding about children's intrinsic and extrinsic aspirations continue to evolve, it would be encouraging to continue to see the development of early

interventions, as well as the capacity to explore the viability of other approaches described in the practical and clinical implications.

Conclusion

This thesis has made novel contributions to the field by developing a qualitative coding system for intrinsic and extrinsic aspirations in naturally occurring language, exploring the stability of aspiration orientations over a large breadth of time, and their implications for well-being, and by providing a meta assessment of the role parents play in their children's aspiration orientations. The finding that intrinsic aspirations hold some stability within the same people over a 40-year period sheds light on the enduring nature of intrinsic aspirations. Together, the studies of this thesis underscore the importance of fostering need supportive environments in promoting intrinsic aspiring, and well-being. When forging our life paths, I encourage a compass that redefines success in life, as one of personal meaning, and eudaimonic well-being, with intrinsic goals as a powerful tool to get there.

References

Adler, N. E., & Ostrove, J. M. (1999). Socioeconomic status and health: what we know and what we don't. *Annals of the New York Academy of Sciences*, *896*(1), 3–15. https://doi.org/10.1111/j.1749-6632.1999.tb08101.x

Ahmadi, A., Noetel, M., Schellekens, M., Parker, P., Antczak, D., Beauchamp, M., Dicke, T., Diezmann, C., Maeder, A., Ntoumanis, N., Yeung, A., & Lonsdale, C. (2021). A systematic review of machine learning for assessment and feedback of treatment fidelity. *Psychosocial Intervention*, *30*(3), 139–153. https://doi.org/10.5093/pi2021a4

Ahn, J. S., & Reeve, J. (2020). Developmental pathways of preadolescents' intrinsic and extrinsic values: The role of basic psychological needs satisfaction. *European Journal of Personality*, er.2274. https://doi.org/10.1002/per.2274

Ames, C., & Archer, J. (1988). Achievement goals in the classroom. *Journal of Educational Psychology*, *80*(3), 260–267. https://doi.org/10.1037/0022-0663.80.3.260

Ashby, J. S., & Schoon, I. (2010). Career success: The role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings. *Journal of Vocational Behavior*, *77*(3), 350–360. https://doi.org/10.1016/j.jvb.2010.06.006

Assor, A., Soenens, B., Yitshaki, N., Ezra, O., Geifman, Y., & Olshtein, G. (2020). Towards a wider conception of autonomy support in adolescence: The contribution of reflective inner-compass facilitation to the formation of an authentic inner compass and well-being. *Motivation and Emotion*, *44*(2), 159–174. https://doi.org/10.1007/s11031-019-09809-2

Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, *23*(5), 611–626. https://doi.org/10.1037/0012-1649.23.5.611

Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control,

and behavioral control: assessing relevance across time, culture, and method. *Monographs of the Society for Research in Child Development*, *70*(4), 1–137. https://doi.org/10.1111/j.1540-5834.2005.00365.x

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*, 1–48. https://doi.org/10.18637/jss.v067.i01

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529. https://www.ncbi.nlm.nih.gov/pubmed/7777651

Bradley, R. H., Corwyn, R. F., McAdoo, H. P., & Coll, C. G. (2001). The home environments of children in the United States part I: variations by age, ethnicity, and poverty status. *Child Development*, *72*(6), 1844–1867. https://doi.org/10.1111/1467-8624.t01-1-00382

Bradshaw, E. L., Conigrave, J. H., Steward, B. A., Ferber, K. A., Parker, P. D., & Ryan, R. M. (2022). A meta-analysis of the dark side of the American dream: Evidence for the universal wellness costs of prioritizing extrinsic over intrinsic goals. *Journal of Personality and Social Psychology*,*124*(4), 873–899. https://doi.org/10.1037/pspp0000431

Bradshaw, E. L., Sahdra, B. K., Calvo, R. A., Mrvaljevich, A., & Ryan, R. M. (2018). Users' intrinsic goals linked to alcohol dependence risk level and engagement with a health promotion website (hello sunday morning): Observational study. *JMIR Mental Health*, *5*(4), e10022. https://doi.org/10.2196/10022

Bredehoft, D., & Ralston, E. (2008). *Factors Connecting Childhood Overindulgence and Adult Life Aspirations Executive Summary Study 6*. [Unpublished manuscript]. Social and Behavioral Sciences Department, Concordia University, St.Paul, MN. https://www.researchgate.net/publication/238088595

Bronfenbrenner, U. (1979). T*he ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Brown, K. W., & Kasser, T. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research*, *74*(2), 349–368. http://www.jstor.org/stable/27522510

Brown, K. W., Kasser, T., Ryan, R. M., Alex Linley, P., & Orzech, K. (2009). When what one has is enough: Mindfulness, financial desire discrepancy, and subjective well-being. *Journal of Research in Personality*, *43*(5), 727–736. https://doi.org/10.1016/j.jrp.2009.07.002

Brown, K. W., & Ryan, R. M. (2004). Fostering healthy self-regulation from within and without: A self-determination theory perspective. In A. P. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 105-124). Hoboken, NJ: Wiley.

Carver, C. S., & Baird, E. (1998). The American dream revisited: Is it what you want or why you want it that matters? *Psychological Science*, *9*(4), 289–292. https://doi.org/10.1111/1467-9280.00057

Chaplin, L. N., & John, D. R. (2010). Interpersonal influences on adolescent materialism: A new look at the role of parents and peers. *Journal of Consumer Psychology: The Official Journal of the Society for Consumer Psychology*, *20*(2), 176–184. https://doi.org/10.1016/j.jcps.2010.02.002

Chaplin, L. N., & John, D. R (2007). Growing up in a Material World: Age differences in materialism in children and adolescents. *The Journal of Consumer Research*, *34*(4), 480–493. https://doi.org/10.1086/518546

Chen, E., & Miller, G. E. (2013). Socioeconomic status and health: Mediating and moderating factors. *Annual Review of Clinical Psychology*, *9*, 723–749. https://doi.org/10.1146/annurev-clinpsy-050212-185634

Chew, E., & Wang, J. (2010). Perceptions of parental autonomy support and control, and aspirations of student athletes in Singapore. *Sport Science and Studies in Asia*, 231–248. https://doi.org/10.1142/9789814304092_0015

Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents. *Journal of Cross-Cultural Psychology*, *32*(5), 618–635. https://doi.org/10.1177/0022022101032005006

Cohen, P., & Cohen, J. (2013). *Life values and adolescent mental health*. Psychology Press. https://www.taylorfrancis.com/books/mono/10.4324/9780203773994/life-values-adolescent-mental-health-patricia-cohen-jacob-cohen

Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, *58*, 175–199. https://doi.org/10.1146/annurev.psych.58.110405.085551

Conger, R. D., Patterson, G. R., & Ge, X. (1995). It takes two to replicate: a mediational model for the impact of parents' stress on adolescent adjustment. *Child Development*, *66*(1), 80–97. https://doi.org/10.1111/j.1467-8624.1995.tb00857.x

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21. https://doi.org/10.1007/BF00988593

Costa, M., Matos, P. M., & Mota, C. P. (2020). Validation of a Portuguese version of the aspiration index for adolescents (AI). *The Spanish Journal of Psychology*, *23*, e32. https://doi.org/10.1017/SJP.2020.22

Croll, P. (2008). Occupational choice, socio-economic status and educational attainment: A study of the occupational choices and destinations of young people in the British household panel survey. *Research Papers in Education*, 23(3), 243–268. doi:10.1080/02671520701755424.

Davids, E. L., Roman, N. V., & Kerchhoff, L. J. (2017). Adolescent goals and aspirations in search of psychological well-being: from the perspective of self-determination theory. *South African Journal of Psychology*, *47*(1), 121–132. https://doi.org/10.1177/0081246316653744

Deci E, L., & Ryan R, M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology/Psychologie Canadienne*, *49*(1), 14–23. https://doi.org/10.1037/0708-5591.49.1.14

Deci E, L., & Ryan R, M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 85–107). Oxford, UK: Oxford University Press.

Diener, E. (2000). Subjective well-being. The science of happiness and a proposal for a national index. *The American Psychologist*, *55*(1), 34–43. https://doi.org/10.1037/0003-066X.55.1.34

Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development*, *65*(2 Spec), 649–665. https://doi.org/10.1111/j.1467-8624.1994.tb00774.x

Dodgeon, B., Patalay, P., Ploubidis, G. B., & Wiggins, R. D. (2020). Exploring the role of early-life circumstances, abilities and achievements on well-being at age 50 years: evidence from the 1958 British birth cohort study. *BMJ Open*, *10*(2), e031416.

https://doi.org/10.1136/bmjopen-2019-031416

Elliott, J., Morrow, V., & Author, D. (2007). *Imagining the Future: Preliminary analysis of NCDS essays written by children at age 11*. London: Centre for Longitudinal Studies, Institute of Education.

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, *4*(1), 2158244014522633. https://doi.org/10.1177/2158244014522633

Emmons, R. A. (1989). The personal strivings approach to personality. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 87–117). Mahwah, NJ: Erlbaum.

Ferber, K. A., Bradshaw, E. L., Noetel, M., Wong, T. Y., Ahn, J. S., Parker, P.D., & Ryan, R.M. (2023). The links between parent characteristics and children's intrinsic and extrinsic aspirations: A systematic review and meta-analysis [Manuscript under revise and resubmit]

Funder, D. C., & Ozer, D. J. (2019). Evaluating Effect Size in Psychological Research: Sense and Nonsense. *Advances in Methods and Practices in Psychological Science* 2 (2): 156–68. https://doi.org/https://doi.org/10.1177/2515245919847202

Gamer, M., Lemon, J., & Singh, I. F. P. (2021). irr: Various Coefficients of Interrater Reliability and Agreement. R package version 0.84. 1. 2019.

Glasser, B. G., & Strauss, A. L. (1967). *The development of grounded theory.* Chicago, IL: Alden.

Gouveia, V. V., Correa Vione, K., Milfont, T. L., & Santos, W. S. (2015). Guiding actions and expressing needs: On the psychological functions of values. *Psykhe*, *24*(2), 1–14. https://www.redalyc.org/articulo.oa?id=96742675002

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. 78–99)*.

Grolnick, W. S., & Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives*, *3*(3), 165–170. https://doi.org/10.1111/j.1750-8606.2009.00099.x

Grolnick, W. S., Price, C. E., Beiswenger, K. L., & Sauck, C. C. (2007). Evaluative pressure in mothers: effects of situation, maternal, and child characteristics on autonomy supportive versus controlling behavior. *Developmental Psychology*, *43*(4), 991–1002. https://doi.org/10.1037/0012-1649.43.4.991

Grolnick, W. S., Raftery-Helmer, J. N., Marbell, K. N., Flamm, E. S., Cardemil, E. V., & Sanchez, M. (2014). Parental provision of structure: Implementation and correlates in three domains. *Merrill-Palmer Quarterly*, *60*(3), 355–384. https://doi.org/10.13110/merrpalmquar1982.60.3.0355

Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in School. *Journal of Educational Psychology*, *81*(2), 143–154. https://doi.org/10.1037/0022-0663.81.2.143

Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: a multidimensional conceptualization and motivational model. *Child Development*, *65*(1), 237–252. https://doi.org/10.1111/j.1467-8624.1994.tb00747.x

Grolnick, W. S., Weiss, L., McKenzie, L., & Wrightman, J. (1996). Contextual, cognitive, and adolescent factors associated with parenting in adolescence. *Journal of Youth and Adolescence*, *25*(1), 33–54. https://doi.org/10.1007/BF01537379

Grouzet, F. M. E., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., Ryan, R. M., Saunders, S., Schmuck, P., & Sheldon, K. M. (2005). The structure of goal contents

across 15 cultures. *Journal of Personality and Social Psychology*, *89*(5), 800–816. https://doi.org/10.1037/0022-3514.89.5.800

Grusec, J. E. (1994). Social learning theory and developmental psychology: The legacies of Robert R. Sears and Albert Bandura. In R. D. Parke, P. A. Ornstein, J. J. Rieser, & C. Zahn-Waxler (Eds.), *A century of developmental psychology*. (pp. 473–497). American Psychological Association. https://doi.org/10.1037/10155-016

Gutman, L. M., & Schoon, I. (2012). Correlates and consequences of uncertainty in career aspirations: Gender differences among adolescents in England. *Journal of Vocational Behavior*, *80*(3), 608–618. https://doi.org/10.1016/j.jvb.2012.02.002

Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: An overview and tutorial. *Tutorials in Quantitative Methods for Psychology*, *8*(1), 23–34. https://doi.org/10.20982/tqmp.08.1.p023

Hope, N. H., Milyavskaya, M., Holding, A. C., & Koestner, R. (2016). The humble path to progress: Goal specific aspirational content predicts goal progress and goal vitality. *Personality and Individual Differences, 90,* 99– 107. 10.1016/ j.paid.2015.10.038

Heckhausen, J. (1999). *Developmental regulation in adulthood: Age-normative and sociostructural constraints as adaptive challenges*. New York: Cambridge University Press.

Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review, 117*(1), 32–60. https://doi.org/10.1037/a0017668

Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages, and paternal attitudes predict college women's attitudes about cosmetic surgery. *Psychology of Women Quarterly*, *33*(1), 133–142. https://doi.org/10.1111/j.1471-6402.2008.01480.x

Hofstede, G. (2001). *Culture's Consequences (2nd ed.)*. Thousand Oaks, CA: Sage.

Hill, R. (1949). *Families under stress: Adjustment to the crisis of war, separation and reunion*. New York: Harper & Row.

Jackson, A. P., Brooks-Gunn, J., Huang, C. C., & Glassman, M. (2000). Single mothers in low-wage jobs: financial strain, parenting, and preschoolers' outcomes. *Child Development, 71*(5), 1409–1423. https://doi.org/10.1111/1467-8624.00236

Jaspers, E. D. T., & Pieters, R. G. M. (2016). Materialism across the life span: An age-period-cohort analysis. *Journal of Personality and Social Psychology*, *111*(3), 451–473. https://doi.org/10.1037/pspp0000092

Joussemet, M., Mageau, G. A., Larose, M.-P., Briand, M., & Vitaro, F. (2018). How to talk so kids will listen & listen so kids will talk: a randomized controlled trial evaluating the efficacy of the how-to parenting program on children's mental health compared to a wait-list control group. *BMC Pediatrics*, *18*(1), 257. https://doi.org/10.1186/s12887-018-1227-3

Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, *312*(5782), 1908–1910. https://doi.org/10.1126/science.1129688

Kasser, T. (2002). *The high price of materialism*. Cambridge, MA: MIT Press.

Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., Árnadóttir, O., Bond, R., Dittmar, H., Dungan, N., & Hawks, S. (2014).Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion*, *38*(1), 1–22. https://doi.org/10.1007/s11031-013-9371-4

Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, *65*(2), 410–422. https://doi.org/10.1037/0022-3514.65.2.410

Kasser, T., & Ryan, R. M. (1996). Further examining the american dream: differential correlates of intrinsic and extrinsic goals. *Personality & Social Psychology Bulletin*, *22*(3), 280–287. https://doi.org/10.1177/0146167296223006

Kasser, T., & Ryan, R. M. (2001). *Be careful what you wish for: Optimal functioning and the relative attainment of intrinsic and extrinsic goals*. https://psycnet.apa.org/record/2001-01629-007

Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology*, *31*(6), 907–914. https://doi.org/10.1037/0012-1649.31.6.907

Kytle, J., & Bandura, A. (1978). Social learning theory. *Contemporary Sociology*, *7*(1), 84. https://doi.org/10.2307/2065952

Lekes, N., Gingras, I., Philippe, F. L., Koestner, R., & Fang, J. (2010). Parental autonomy-support, intrinsic life goals, and well-being among adolescents in China and North America. *Journal of Youth and Adolescence*, *39*(8), 858–869. https://doi.org/10.1007/s10964-009-9451-7

Lekes, N., Hope, N. H., Gouveia, L., Koestner, R., & Philippe, F. L. (2012). Influencing value priorities and increasing well-being: The effects of reflecting on intrinsic values. *The Journal of Positive Psychology*, *7*(3), 249–261. https://doi.org/10.1080/17439760.2012.677468

Linley, P. A., & Joseph, S. (2004). Applied positive psychology: A new perspective for professional practice. In P. A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 3–12). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470939338.ch1

Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: a synthesis guiding the novice. *Qualitative Research Journal; Armidale*, *19*(3), 259–270. https://doi.org/10.1108/QRJ-12-2018-0012

Lüdecke, D. (2018) ggeffects: Tidy data frames ofmarginal effects from regression models. *Journal of Open Source Software*, *3(*26), 772. https://doi.org/10.21105/joss.00772.

Marbell, K. N., Grolnick, W. S., & Grolnick, W. S. (2013). Correlates of parental control and autonomy support in an interdependent culture: A look at Ghana. *Motivation and Emotion*, *37*(1), 79–92. https://doi.org/10.1007/s11031-012-9289-2

Martos, T., & Kopp, M. (2014). Life goals and well-being in Hungary. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 3571-3576). Dordrecht, The Netherlands: Springer.

Martela, F., Bradshaw, E. L., & Ryan, R. M. (2019). Expanding the map of intrinsic and extrinsic aspirations using network analysis and multidimensional scaling: examining four new aspirations. *Frontiers in Psychology*, *10*, 2174. https://doi.org/10.3389/fpsyg.2019.02174

Maturana, H. R., & Varela, F.J. (1992). *The tree of knowledge: The biological roots of human understanding (rev.edition)*. Boston: Shambhala.

Miles, M. B., Huberman, M. A., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Los Angeles, SA: Sage.

Morgan, J., & Robinson, O. (2013). Intrinsic aspirations and personal meaning across adulthood: conceptual interrelations and age/sex differences. *Developmental Psychology*, *49*(5), 999–1010. https://doi.org/10.1037/a0029237

Moulton, V., Flouri, E., Joshi, H., & Sullivan, A. (2015). The role of aspirations in young children's emotional and behavioural problems. *British Educational Research Journal*, *41*(6), 925–946. https://doi.org/10.1002/berj.3188

Moulton, V., Flouri, E., Joshi, H., & Sullivan, A. (2016). Individual-level predictors of young children\textquoterights aspirations. *Research Papers in Education*, *33*(1), 1–18. https://doi.org/10.1080/02671522.2016.1225797

Moulton, V., Flouri, E., Joshi, H., & Sullivan, A. (2018). Individual-level predictors of young children's aspirations. *Research Papers in Education*, *33*(1), 24–41. https://doi.org/10.1080/02671522.2016.1225797

Murdock. (2013). *Do perceptions of parental goal promotion and autonomy support explain the relationship between generational status and academic processes and outcomes?* [Unpublished dissertation] University of Oklahoma.

Myers, D. G. (2000). The funds, friends, and faith of happy people. *The American Psychologist*, *55*(1), 56–67. https://doi.org/10.1037/0003-066X.55.1.56

Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The Path Taken: Consequences of Attaining Intrinsic and Extrinsic Aspirations in Post-College Life. *Journal of Research in Personality*, *73*(3), 291–306. https://doi.org/10.1016/j.jrp.2008.09.001

Nishimura, T., Bradshaw, E. L., Deci, E. L., & Ryan, R. M. (2021). *Satisfaction of basic psychological needs in an interdependence model of fathers' own aspirations and those of their children. Social Development* . https://doi.org/10.1111/sode.12473

Panksepp, J., & Northoff, G. (2009). The trans-species core SELF: the emergence of active cultural and neuro-ecological agents through self-related processing within subcortical-cortical midline networks. *Consciousness and Cognition*, *18*(1), 193–215. https://doi.org/10.1016/j.concog.2008.03.002

Polanyi, M. (1958). *Personal knowledge: Towards a post-critical philosophy*. Chicago: University of Chicago Press.

Power, C., & Elliott, J. (2006). Cohort profile: 1958 British birth cohort (National Child Development Study). *International Journal of Epidemiology*, *35*(1), 34–41. https://doi.org/10.1093/ije/dyi183

R Core Team. (2021). R: A language and environment for statistical computing (Version 4.1.0). R Foundation for Statistical Computing. http://www.r-project.org/

Reeve, J. (2002). Overview of self-determination theory: An organismic dialectical perspective. *In E. L. Deci & R. M. Ryan (Eds.), Handbook of self-determination research (pp. 3–33)*. https://doi.org/10.1007/978-1-4614-2018-7_7

Reeve, J., & Shin, S. H. (2020). How teachers can support students' agentic engagement. *Theory into Practice*, *59*(2), 150–161. https://doi.org/10.1080/00405841.2019.1702451

Rijavec, M., Brdar, I., & Miljković, D. (2011). Aspirations and well-being: extrinsic vs. intrinsic life goals. *Drustvena Istrazivanja*, *20*(3 (113), 693–710. https://doi.org/10.5559/di.20.3.05

Rokeach, M. (1973). *The nature of human values*. New York: Free Press.

Roman, N. V., Davids, E. L., Moyo, A., Schilder, L., Lacante, M., & Lens, W. (2015). Parenting styles and psychological needs influences on adolescent life goals and aspirations in a South African setting. *Journal of Psychology in Africa*, *25*(4), 305–312. https://doi.org/10.1080/14330237.2015.1078087

Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy, and the self in psychological development. In J. Jacobs (Ed.), *Nebraska Symposium on Motivation: Vol. 40. Developmental perspectives on motivation* (pp. 1-56). Lincoln: University of Nebraska Press.

Ryan, R. M., Chirkov, V. I., Little, T. D., Sheldon, K. M., Timoshina, E., & Deci, E. L. (1999). The american dream in Russia: Extrinsic aspirations and well-being in two cultures. *Personality and Social Psychology Bulletin*, *25*(12), 1509–1524. https://doi.org/10.1177/01461672992510007

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy disturbances

in self-development and psychopathology: Research on motivation, attachment, and clinical process. In D. Cicchetti (Ed.), *Developmental psychopathology*, Vol. *1. Theory and method* (3rd ed., pp. 385-438). New York: Wiley. 385–438.

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

Ryan, R M, & Deci, E. L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141–166. https://doi.org/10.1146/annurev.psych.52.1.141

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 101860 – . https://doi.org/10.1016/j.cedpsych.2020.101860

Ryan, R., Huta, V., & Deci, E. L. (2013). Living Well: A Self-Determination Theory Perspective on Eudaimonia. In A. Delle Fave (Ed.), *The exploration of happiness* (pp. 117–139). Springer Netherlands. https://doi.org/10.1007/978-94-007-5702-8_7

Ryan, R. M., & Martela, F. (2016). Eudaimonia as a way of living: Connecting Aristotle with self-determination theory. In J. Vitterso (Ed.), *The handbook of eudaimonic wellbeing.* New York, NY: Springer.

Schmuck, P., Kasser, T., & Ryan, R. (2000). *Intrinsic and extrinsic Goals: Their structure and relationship to well-being in German and U.S. college students*. *Social Indicators Research, 50*(2), 225-241. https://doi.org/10.1023/!:1007084005278

Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *The Journal of Social Issues, 50*(4), 19–45. https://doi.org/10.1111/j.1540-4560.1994.tb01196.x

Schwartz, S. H. (2007). Universalism values and the inclusiveness of our moral universe.

Journal of Cross-Cultural Psychology, 38, 711–728. doi:10.1177/0022022107308992

Schwartz, S. H. (2012). Values and Religion in Adolescent Development: Cross-National and Comparative Evidence. In G. Tromsdorff & X. Chen (Eds.), *Values, religion, and culture in adolescent development.* New York: Cambridge University Press.

Sebire, S. J., Standage, M., & Vansteenkiste, M. (2009). Examining intrinsic versus extrinsic exercise goals: cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, *31*(2), 189–210. https://doi.org/10.1123/jsep.31.2.189

Sheldon, K. M., Arndt, J., & Houser-Marko, L. (2003). In search of the organismic valuing process: the human tendency to move towards beneficial goal choices. *Journal of Personality*, *71*(5), 835–869. https://doi.org/10.1111/1467-6494.7105006

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, *76*(3), 482–497. https://doi.org/10.1037/0022-3514.76.3.482

Sheldon, K. M., & Kasser, T. (2001). Getting older, getting better? Personal strivings and psychological maturity across the life span. *Developmental Psychology*, *37*(4), 491–501. https://doi.org/10.1037/0012-1649.37.4.491

Sheldon, K. M., & Krieger, L. S. (2014). Service job lawyers are happier than money job lawyers, despite their lower income. The Journal of Positive Psychology, 9(3), 219- 226. doi:10.1080/17439760.2014.888583

Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The independent effects of goal contents and motives on well-being: Its both what you pursue and why you pursue it. *Personality & Social Psychology Bulletin*, *30*(4), 475–486. https://doi.org/10.1177/0146167203261883

Sibley, B. A., & Bergman, S. M. (2018). What keeps athletes in the gym? Goals, psychological needs, and motivation of CrossFit™ participants. *International Journal of*

Sport and Exercise Psychology, *16*(5), 555–574. https://doi.org/10.1080/1612197X.2017.1280835

Şimşek, Ö. F., & Demir, M. (2013). Parental support for basic psychological needs and happiness: The importance of sense of uniqueness. *Social Indicators Research*, *112*(3), 661–678. https://doi.org/10.1007/s11205-012-0075-z

Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review: DR*, *30*(1), 74–99. https://doi.org/10.1016/j.dr.2009.11.001

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. https://doi.org/10.1016/j.adolescence.2011.05.001

Sohr-Preston, S. L., Scaramella, L. V., Martin, M. J., Neppl, T. K., Ontai, L., & Conger, R. (2013). Parental socioeconomic status, communication, and children's vocabulary development: a third-generation test of the family investment model. *Child Development*, *84*(3), 1046–1062. https://doi.org/10.1111/cdev.12023

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, *5*, 63. https://doi.org/10.1186/1477-7525-5-63

Van Hiel, A., & Vansteenkiste, M. (2009). Ambitions fulfilled? The effects of intrinsic and extrinsic goal attainment on older adults' ego-integrity and death attitudes. *International Journal of Aging & Human Development*, *68*(1), 27–51. https://doi.org/10.2190/AG.68.1.b

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), 263–280. https://doi.org/10.1037/a0032359

Wickham, H. (2016). Elegant graphics for data analysis. Springer. https://ggplot2.tidyverse.org

Waller, B. N. (1998). *The natural selection of autonomy.* Albany: State University of New York Press.

Ware, J. E., Snow K., Kosinski, M., & Gandek (1993). SF-36 health survey: Manual and interpretation guide. Boston, MA: New England Medical Center *Health Institute.*

Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. *Journal of Research in Personality*, *43*(3), 374–385. https://doi.org/10.1016/j.jrp.2008.12.008

White, R. W. (1959). Motivation reconsidered: the concept of competence. *Psychological Review*, *66*, 297–333. https://doi.org/10.1037/h0040934

Wiggins, R. D., Higgs, P. F., Hyde, M., & Blane, D. B. (2004). Quality of life in the third age: key predictors of the CASP-19 measure. *Ageing & Society*, *24*(5), 693-708.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-Value Theory of Achievement Motivation. *Contemporary Educational Psychology*, *25*(1), 68–81. https://doi.org/10.1006/ceps.1999.1015

Wiggins, R., Netuveli, G., Hyde, M., Higgs, P., & Blane, D. (2008). The evaluation of a self-enumerated scale of quality of life (CASP-19) in the context of research on Ageing: A combination of exploratory and confirmatory approaches. *Social Indicators Research*, *89*(1), 61–77. https://doi.org/10.1007/s11205-007-9220-5

Willig, C. (2001). *Qualitative research in psychology: A practical guide to theory and method.* Buckingham: OUP.

Williams, G. C., Hedberg, V. A., Cox, E. M., & Deci, E. L. (2000). Extrinsic life goals and

health-risk behaviors in adolescents. *Journal of Applied Social Psychology*, *30*(8), 1756–1771. https://doi.org/10.1111/j.1559-1816.2000.tb02466.x

Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity*, *2*(1), 1–20. https://doi.org/10.1080/15298860309021

Wu, Q., & Xu, Y. (2020). Parenting stress and risk of child maltreatment during the COVID-19 pandemic: A family stress theory-informed perspective. *Developmental Child Welfare*, *2*(3), 180–196. https://doi.org/10.1177/2516103220967937

Wuyts, D., Chen, B., Vansteenkiste, M., & Soenens, B. (2015). Social pressure and unfulfilled dreams among chinese and belgian parents. *Journal of Cross-Cultural Psychology*, *46*(9), 1150–1168. https://doi.org/10.1177/0022022115603125

Yamaguchi, M., & Halberstadt, J. (2012). *Goals and Well Being in New Zealand*.

Yates, S., Harris, A., & Sabates, R. (2011). Early Occupational Aspirations and Fractured Transitions: A Study of Entry into "NEET" Status in the UK. *Journal of Social Policy*, *40*(3), 513–534. https://doi.org/10.1017/S0047279410000656

Yeung, W. J., Linver, M. R., & Brooks-Gunn, J. (2002). How money matters for young children's development: parental investment and family processes. *Child Development*, *73*(6), 1861–1879. https://doi.org/10.1111/1467-8624.t01-1-00511

Zawadzka, A. M., Iwanowska, M., & Borchet, J. (2018). The Role of Parents, Social Media and Materialism in Teenage Activism. *Social Psychological Bulletin*, *13*(4), 1–17. https://doi.org/10.32872/spb.v13i4.26706

Appendix A

Thematic Coding System

Table A1

Thematic Coding System

Aspiration Domain	Items from the Aspiration Index	Three key themes used in the thematic coding system
Wealth (E)	To be a very wealthy person. To have many expensive possessions. To be financially successful. To be rich. To have enough money to buy everything I want.	1. Did they make a comment regarding money, i.e. how much money they will earn in a job, that they would like to save money? (1 count) 2. Did they mention a possession that they would particularly like, car, house? Or a statement to suggest they would like to have the things they want. (1 count) 3. Did they make a comment about wanting to be particularly wealthy, such as being rich and/or having a very well earning job and/or wanting several possessions or expensive possessions? (1 count)
Fame (E)	To have my name known by many people. To be admired by many people. To be famous. To have my name appear frequently in the media. To be admired by lots of different people.	1. Did they make a comment about wanting to be known or admired by others, at a local community level? (the best within their local soccer club) (1 count) 2. Did they make a comment about wanting to be known or admired by others, at a moderate level (a breadth that is broader than their local community but not at a large scale international level)? (in one of the top divisions nationally) (1 count) 3. In the context of talking about wanting to be known or admired by others, did they mention wanting to be particularly famous, on a larger scale, being known or admired internationally? (to make the olympics)(1 count)
Image (E)	To successfully hide the signs of aging. To have people comment often about how attractive I look. To keep up with fashions in hair and clothing. To achieve the "look" I've been after. To have an image that others find appealing.	1. Did they make a comment about a look/style that they would like to have, i.e. clothes, image, hair? (1 count) 2. Did they make a comment about keeping up with the looks/fashion trends, others would find appealing? (1 count) 3. Did they make a comment about trying to avoid signs of aging/looking youthful? (1 count)

Personal Growth (I)	To grow and learn new things. At the end of my life, to be able to look back on my life as meaningful and complete. To choose what I do, instead of being pushed along by life. To know and accept who I really am. To gain increasing insight into why I do the things I do.	1. Did they indicate that they engage in an activity and explicitly write that they do so with the intention to grow and learn new things? (1 count) (skill building) 2. Did they indicate that they value being about to choose how they spend their time, spend their time in ways that they endorse, make them happy? i.e. specifically mention that they would like to work a job that they are happy with or choose how they spend their time or live a life they are happy with. Note vague comments such as "to be happy" will not be counted as volition (1 count) (volition) 3. Did they indicate that they value being able to establish greater meaning in life, such as self-discovery, find meaning in the things that they do, live a meaningful life. (1 count) (meaning)
Affiliation (I)	To have good friends that I can count on. To share my life with someone I love. To have committed, intimate relationships. To feel that there are people who really love me, and whom I love. To have deep enduring relationships.	1. Did they mention any number of relationships that aren't a romantic partner (parent, sibling, God, pet, grandparent, child, friend) (1 count) 2. Describe wanting or having a romantic partner i.e. husband, wife, partner (1 count) 3. Was there additional content that indicated that they value particular closeness and depth in relationships. Not just the presence of a relationship but a comment suggesting the meaning/significance of the relationship. I.e. I want my partner to really know who I am, I would have very good friends etc. (1 count)
Physical Health (I)	To be physically healthy. To feel good about my level of physical fitness. To keep myself healthy and well. To be relatively free from sickness. To have a physically healthy life style.	1. Statement indicates that the act of engaging in at least one behaviour that involves being physically active, taking the dog for a walk, going to the gym riding a bike to work (1 count) 2. Statement of the valuing of health oriented, health is important, or being proud/happy with their level of physical fitness. (1 count) 3. The presence of a statement avoiding sickness/maintaining health, not getting sick, staying mobile. (1 count)
Community (I)	To work for the betterment of society. To assist people who need it, asking nothing in return. To work to make the world a better place. To help others improve their lives. To help people in need.	1. Acts of service to help others- whether it be a job because they really want to help children, or elderly, or sick people, or help other people with their finances, people oriented and assisting others. (1 count) 2. Charitable donations (1 count) 3. To make the world a better place, whether environment, community, a cause, an area that they are passionate about and they verbalise an intention of an action/behaviour they will engage in (1 count)(note. may involve a mention of other people but would need to also include an indication that they are helping other people with a particular intention to make the world a better place is some way.)

Note. Each aspiration domain has a possible maximum of 3 counts allocated depending on the presence or absence of content related to the three themes. *Please note the domain 'fame' is weighted based on the reach of desired fame spanning from local to international. I - Intrinsic domain. E = Extrinsic domain.

Appendix B

Abundance and Deficit Specifiers

Table A2

Coding System for Abundance and Deficit Specifiers

Aspiration Domain	Key Synonyms, Aspiration description, Inclusion/exclusion examples.
Abundance (1)	Evidence of seeking extreme wealth/possessions AND no evidence of financial hardship. Example cases of inclusion and exclusion: Inclusion: "having financial wealth" "millionaire" "billionaire" "to have lots of valuable possessions" "to be a wealthy person" Exclusion The phrases below do not provide enough information to be confident that they seek extreme levels of wealth: "prosperity" (as people can aim to prosper/be prosperous without being greed-oriented) "financially fit" "to have no financial worries" "to be financially stable"
Seeking abundance out of deficit (2)	Evidence of seeking extreme wealth/possessions AND evidence of financial hardship. Example cases of inclusion: Inclusion: The combination of a statement such as: "To get out of poverty" "Enough money to afford the basics" AND "having financial wealth" "millionaire" "to have lots of valuable possessions" "to be a wealthy person"
Deficit (3)	Desire for improved financial situation AND evidence of significant financial hardship. Inclusion: "To get out of poverty" "Enough money to afford the basics" Exclusion "To pay off my debt" "To have no debt" just mentioning debt is not enough evidence of financial hardship because they could be just paying off their credit card or a mortgage).

Appendix C

Text Search Coding System

Table A3

List of Terms Used for the Text Search Coding System

Aspiration Domain	Key Synonyms, Aspiration description, Inclusion/exclusion examples.
Wealth (E)	Rich money cash wealth property assets fortune finance possessions belongings goods pay wage income car house apartment "own things" "own lots of things"
Fame (E)	"be popular" "admired" "others admire" "be a star" "be famous" "be a celebrity" "achieve glory" "be important" "good reputation" "be prestigious" "be recognized" "have recognition" "be known"
Image (E)	"look pretty" "look attractive" "look appealing" "be pretty" "be attractive" "be handsome" "look handsome" "look desirable" "look beautiful" "look stylish" "be stylish" "look cute" "the look I want" "the look I am after" "the style I want" "the style I am after" "the way I look"
Personal Growth (I)	grow learn develop knowledge skill leisure travel job career education study degree volition "to choose" "self awareness" "self insight"
Affiliation (I)	family friends mate friendship married engaged boyfriend girlfriend baby children mother father mom dad sister brother love relationship affiliation bond pet dog cat
Physical Health (I)	sport fitness "wellness" "well-being" "wellbeing" "to be well" healthy health workout exercise "prevent illness" "prevent sickness"
Community (I)	"help others" "help people" "assist others" "assist people" volunteer "care for others" community "make the world a better place"

Note. E- Extrinsic I- Intrinsic

Appendix D

Stability of Individual Aspiration Domains Between Age 11 and Age 50

Aspirations at Age 11 as a Predictor of Aspirations at Age 50

Wealth

Wealth Counts. Wealth counts at age 11 were not found to predict wealth counts at age 50, (b = 0.02, p = 0.35), see Table A4. The movement of wealth counts between age 11 and age 50 can be seen in Table A5.

Table A4

Wealth Counts at Age 50 predicted by Wealth Counts at Age 11

Wealth Counts Age 11	Predicted Wealth Counts Age 50	95%CI
0	0.39	[0.36, 0.42]
1	0.40	[0.38, 0.42]
2	0.41	[0.38, 0.43]
3	0.42	[0.37, 0.46]

Table A5

Number and Percentage of Wealth Counts at Age 50 for Each Wealth Count Level at Age 11

WealthTotal_11	*WealthTotal_50* 0	1	2	3	***Total***
0	944 68.5 %	347 25.2 %	77 5.6 %	10 0.7 %	1378 100 %
1	693 68.1 %	250 24.6 %	63 6.2 %	12 1.2 %	1018 100 %
2	528 69.6 %	174 22.9 %	45 5.9 %	12 1.6 %	759 100 %
3	322 65.7 %	134 27.3 %	30 6.1 %	4 0.8 %	490 100 %
Total	2487 68.2 %	905 24.8 %	215 5.9 %	38 1 %	3645 100 %

χ^2=7.404 · df=9 · Cramer's V=0.026 · p=0.595

Image

Image Counts. Image counts at age 11 were not found to predict image counts at age, (b = -0.01, p = 0.99), see Table A6. The movement of image counts between age 11 and age 50 can be seen in Table A7.

Table A6

Image Counts at Age 50 predicted by Image Counts at Age 11

Image Counts Age 11	Predicted Image Counts Age 50	95%CI
0	0.02	[0.02, 0.03]
1	0.02	[0.01, 0.04]
2	0.02	[0.00, 0.09]

Table A7

Number and Percentage of Image Counts at Age 50 for Each Image Count Level at Age 11

ImageTotal_11	*ImageTotal_50* 0	1	2	***Total***
0	3262 97.9 %	68 2 %	3 0.1 %	3333 100 %
1	299 98.7 %	3 1 %	1 0.3 %	303 100 %
2	8 88.9 %	1 11.1 %	0 0 %	9 100 %
Total	3569 97.9 %	72 2 %	4 0.1 %	3645 100 %

χ^2=6.924 · df=4 · Cramer's V=0.031 · Fisher's p=0.077

Fame

Fame Counts. A statistically significant, positive link was found between fame counts at age 11 and fame counts at age 50 ($b = 0.42$, $p < 0.01$). Table A8 shows the number of fame counts at age 50 predicted by the number of fame counts at age 11. The movement of fame counts between age 11 and age 50 can be seen in Table A9.

Table A8

Fame Counts Age 11	Predicted Fame Counts Age 50	95%CI
0	0.01	[0.01, 0.02]
1	0.02	[0.01, 0.03]
2	0.03	[0.02, 0.05]
3	0.04	[0.02, 0.09]

Table A9

Number and Percentage of Fame Counts at Age 50 for Each Fame Count Level at Age 11

Fame_11	*Fame_50* 0	1	2	3	***Total***
0	3269 99.2 %	10 0.3 %	12 0.4 %	3 0.1 %	3294 100 %
1	101 100 %	0 0 %	0 0 %	0 0 %	101 100 %
2	143 98.6 %	1 0.7 %	1 0.7 %	0 0 %	145 100 %
3	102 97.1 %	1 1 %	1 1 %	1 1 %	105 100 %
Total	3615 99.2 %	12 0.3 %	14 0.4 %	4 0.1 %	3645 100 %

χ^2=11.091 · df=9 · Cramer's V=0.032 · Fisher's p=0.160

Affiliation.

Affiliation Counts. A statistically significant, positive link was found between affiliation counts at age 11 and affiliation counts at age 50 ($b = 0.09$, $p < 0.001$), see Table A10. The movement of affiliation counts between age 11 and age 50 can be seen in Table A11.

Table A10

Affiliation Counts at Age 50 predicted by Affiliation Counts at Age 11

Affiliation Counts Age 11	Predicted Affiliation Counts Age 50	95%CI
0	1.11	[1.05, 1.19]
1	1.21	[1.17, 1.26]
2	1.32	[1.28, 1.37]
3	1.44	[1.35, 1.54]

Table A11

Number and Percentage of Affiliation Counts at Age 50 for Each Affiliation Count Level at Age 11

AffiliationTotal_11	*AffiliationTotal_50* 0	1	2	3	***Total***
0	127 24.6 %	208 40.3 %	166 32.2 %	15 2.9 %	516 100 %
1	279 23.4 %	468 39.3 %	371 31.2 %	72 6.1 %	1190 100 %
2	333 17.9 %	710 38.3 %	687 37 %	126 6.8 %	1856 100 %
3	13 15.7 %	22 26.5 %	45 54.2 %	3 3.6 %	83 100 %
Total	752 20.6 %	1408 38.6 %	1269 34.8 %	216 5.9 %	3645 100 %

$\chi^2=47.949 \cdot df=9 \cdot Cramer's\ V=0.066 \cdot p=0.000$

Personal Growth.

Personal Growth Counts. A statistically significant, positive link was found between personal growth counts at age 11 and personal growth counts at age 50 ($b = 0.15$, $p < 0.01$), see Table A12. The movement of personal growth counts between age 11 and age 50 can be seen in Table A13.

Table A12

Personal Growth Counts at Age 50 predicted by Personal Growth Counts at Age 11

Personal Growth Counts Age 11	Predicted Personal Growth Counts Age 50	95%CI
0	0.37	[0.35, 0.39]
1	0.43	[0.40, 0.46]
2	0.49	[0.42, 0.58]
3	0.57	[0.45, 0.73]

Table A13

Number and Percentage of Personal Growth Counts at Age 50 for Each Personal Growth Count Level at Age 11

PersonalTotal_11	*PersonalTotal_50* 0	1	2	3	***Total***
0	1564 65.3 %	788 32.9 %	42 1.8 %	2 0.1 %	2396 100 %
1	667 59 %	431 38.1 %	31 2.7 %	2 0.2 %	1131 100 %
2	70 59.8 %	43 36.8 %	4 3.4 %	0 0 %	117 100 %
3	1 100 %	0 0 %	0 0 %	0 0 %	1 100 %
Total	2302 63.2 %	1262 34.6 %	77 2.1 %	4 0.1 %	3645 100 %

χ^2=17.096 · df=9 · Cramer's V=0.040 · Fisher's p=0.006

Community Giving.

Community Giving Counts. A statistically significant, positive link was found between community giving counts at age 11 and intrinsic aspirations at age 50 ($b = 0.33$, $p < 0.01$), see table A14. The movement of community giving counts between age 11 and age 50 can be seen in Table A15.

Table A14

Community Counts at Age 50 predicted by Community Counts at Age 11

Community Counts Age 11	Predicted Community Counts Age 50	95%CI
0	0.15	[0.13, 0.16]
1	0.20	[0.16, 0.25]
2	0.28	[0.18, 0.44]
3	0.40	[0.20, 0.77]

Table A15

Number and Percentage of Community Counts at Age 50 for Each Community Count Level at Age 11

CommunityTotal_11	*CommunityTotal_50* 0	1	2	***Total***
0	2985 86.8 %	412 12 %	42 1.2 %	3439 100 %
1	135 78.5 %	33 19.2 %	4 2.3 %	172 100 %
2	25 80.6 %	6 19.4 %	0 0 %	31 100 %
3	2 66.7 %	1 33.3 %	0 0 %	3 100 %
Total	3147 86.3 %	452 12.4 %	46 1.3 %	3645 100 %

$\chi^2=12.724 \cdot df=6 \cdot Cramer's\ V=0.042 \cdot Fisher's\ p=0.033$

Physical Health.

Physical Health Counts. A statistically significant, positive link was found between physical health counts at age 11 and physical health at age 50 ($b = 0.08$, $p < 0.05$), see Table A16. The movement of physical health counts between age 11 and age 50 can be seen in Table A17.

Table A16

Physical Health Counts at Age 50 predicted by Physical Health Counts at Age 11

Physical Health Counts Age 11	Predicted Physical Health Counts Age 50	95%CI
0	1.02	[0.98, 1.07]
1	1.11	[1.06, 1.16]
2	1.19	[1.08, 1.32]
3	1.29	[1.10, 1.51]

Table A17

Number and Percentage of Physical Health Counts at Age 50 for Each Physical Health Count Level at Age 11

PhysicalTotal_11	*PhysicalTotal_50* 0	1	2	3	***Total***
0	530 24 %	1108 50.3 %	546 24.8 %	20 0.9 %	2204 100 %
1	308 22.2 %	648 46.7 %	419 30.2 %	13 0.9 %	1388 100 %
2	7 13.5 %	24 46.2 %	20 38.5 %	1 1.9 %	52 100 %
3	0 0 %	1 100 %	0 0 %	0 0 %	1 100 %
Total	845 23.2 %	1781 48.9 %	985 27 %	34 0.9 %	3645 100 %

$\chi^2=19.138 \cdot df=9 \cdot Cramer's\ V=0.042 \cdot Fisher's\ p=0.008$

Appendix E

Mean Levels of Well-Being for Those Who Did Not Want to Write an Essay or Said Life Would be the Same

Table A18

Means Levels of Well-Being Comparisons Including Those Who Said Life Would Be The Same, Did Not Want To Answer It, or Did Not Have An Orientation Toward Intrinsic or Extrinsic

	Intrinsic Orientation	Extrinsic Orientation	No Intrinsic or Extrinsic Aspirations	Neither Intrinsic nor Extrinsic Orientation	Stay Same	Don't Wish to Answer
Mental Well-Being	50.0 (7.79)	47.7 (8.35)	46.3 (10.5)	51 (7.48)	48.7 (9.52)	45.3 (9.15)
Quality of Life	31.0 (6.12)	28.2 (7.36)	26.9 (7.86)	32.1 (5.40)	30.5 (7.06)	26.2 (7.47)
Functional Health and Well-Being						
Emotional Well-Being	76.6 (19.5)	71.1 (19.5)	65.6 (24.0)	79.2 (13)	76.6 (20.1)	65.1 (22.9)
Pain	78.6 (23.0)	75.5 (23.8)	64.2 (31.6)	80.2 (26.9)	82.6 (22.3)	66.7 (32.2)
Social Functioning	54.7 (16.5)	53.2 (18.4)	48.3 (23)	45 (15)	52.4 (15.3)	51.4 (22.1)
Energy/Fatigue	61.6 (20.4)	57.4 (21.7)	48.8 (25.0)	58.1 (22.5)	64.8 (23.3)	49.5 (23.7)
Role Limitations due to Emotional Problems	87.7 (28.3)	83.7 (31.5)	66.9 (43.3)	82.2 (30.5)	90.4 (25.7)	72.9 (39.7)
Role Limitations due to Physical Health	84.0 (32.0)	79.2 (35.5)	66.8 (40.9)	80 (41.4)	93.5 (23.2)	66.4 (41.6)
General Health	70.4 (20.9)	67.9 (21.4)	54.4 (27.2)	74.7 (19.7)	70.6 (20.1)	54.8 (25.0)
Physical Functioning	87.6 (19.9)	87.7 (17.7)	72.5 (32.7)	88.4 (19.6)	87.1 (25.6)	73.8 (32.8)