

IMPLICATIONS OF NEED SATISFACTION IN WORK AND HOME ROLES FOR WORK -
FAMILY ENRICHMENT AND PARENTING STYLE EXPRESSION

By

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ABSTRACT

A voluminous body of work in I-O psychology indicates that an individual's work experiences influence how they interact with their partner. However, for a large portion of working parents, a partner is not the only person who they interact with at home. Moreover, a robust body of work in developmental psychology and family science has indicated that parenting styles are key predictors of children's health and achievement. Yet despite their noted importance, there is little insight into the drivers of parenting style expression, and particularly proximal influences. Accordingly, in this dissertation I conducted an experience sampling study of working adults ($N = 96$) over 10 days to understand the processes by which basic need fulfillment separately through work and home roles may support subsequent role performance, in the form of parenting style expression. Specifically, I investigate associations between the fulfillment of basic psychological need fulfillment through the work and home roles and the state-level experience of resources that support performance in a subsequent role (positive affect, perspective-taking, and vigor) measured at end-of-workday, and parenting behaviors (measured next-morning). These relationships were tested in multilevel path models. There were main effects for work need satisfaction predicting positive affect and vigor, and even stronger positive effects for home need satisfaction in predicting positive affect, vigor, and child's perspective-taking. Proposed enrichment states did not significantly relate to the expression of traditional parenting styles (authoritative, indulgent, authoritarian, and uninvolved parenting). However, perspective-taking was associated with more responsive and autonomy-supportive parenting, and vigor was also positively associated with responsive parenting. Mediation hypotheses and hypothesized cross-level moderation effects with work and family centrality were not supported. There was a three-way interaction between work need satisfaction and work and family

centrality in predicting child's perspective-taking. In effect, I find support that (a) having basic psychological needs satisfied within one domain may inform well-being states (positive affect, vigor) carrying over in a separate domain, and (b) established between-person parenting styles behaviors show significant variability within-person, and further, more nurturing parenting behaviors may be predicted by daily positive states. Thus, this study helps broaden understanding of outcomes of daily basic psychological need fulfillment within more than one domain, and proximal, state-level antecedents of parenting, a common yet understudied experience within the work-family interface.

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INTRODUCTION

A robust body of research in industrial-organizational (I-O) psychology and organizational behavior has evaluated the ways through which experiences at work influence experiences in the home, and vice versa (Allen, 2013). There is abundant support that both negative and positive work and home experiences “spillover” to affect workers in the opposite domain, including influencing how they interact with others (most commonly focusing on their partners in the home domain, Westman, 2016).

Yet, for many working adults, a romantic partner may not be the only person that they go home to. According to the U.S. Bureau of Labor Statistics, in 2020, 71.2% of mothers and 92.3% of fathers with children younger than 18 were either working or seeking employment (*“Employment Characteristics of Families — 2020”*, 2021). The effects of parents’ work experiences on their parenting and on children have received comparatively little research attention in I-O psychology, spurring scholars to advocate for greater focus on this link (e.g., Major et al., 2004). Across disciplines, studies on this topic have consistently found that parents’ stressful work characteristics are associated with more negative interactions between parents and children (Cho & Ciancetta, 2016). This literature has devoted far less attention towards understanding how positive states may relate to parenting, nor to identifying mechanisms linking work experiences and parenting behaviors other than negative emotions (Cho & Ciancetta, 2016).

In general, research suggests that the presence of children makes navigating work and non-work roles more challenging. For instance, having children is related to greater incidents of work-family and family-work conflict (Byron, 2005). Yet, there should also be the potential for working parents to derive a sense of fulfillment through both their home and work roles, which

may help to support them in the alternate role (Greenhaus & Powell, 2006). How may the home role inform positive states experienced at work, and the work role positive states at home; and what are the implications of positive experiences and states in either role for parenting?

To generate hypotheses about how involvement in one domain, work or home, may connect to parenting style expression, I draw from Deci and Ryan's (2000) basic psychological needs theory and ten Brummelhuis and Bakker's (2012) work-home resources (WH-R) model. ten Brummelhuis and Bakker (2012) define work-family enrichment as a process, through which contextual resources at work or home (e.g., autonomy, social support) lead to the development of personal resources (e.g., mood, attention). These personal resources thus serve as the connecting link explaining how work features may improve performance at home, and vice versa.

In conjunction, basic needs theory (Deci & Ryan, 2000; Gagné & Deci, 2005) can help explain why the presence of contextual resources may generate personal resources in some cases but may fail to do so in other cases. Basic needs theory proposes that workers are more motivated, productive, and healthy when their basic psychological needs of autonomy, competence, and relatedness are met (Sheldon et al., 2003). As the fundamental building blocks for growth and well-being, having one's basic psychological needs met in a domain may be responsible for the development of personal resources. These personal resources, in turn, may allow people to perform better in a subsequent role—thus representing the process of enrichment as individual growth, consistent with basic needs theory. Considering specific resources, having needs met within a role may be especially likely to lead to specific affective, cognitive, and energy-based personal resources that may spillover across domains and ultimately inform role performance at home, in the form of parenting.

Accordingly, I advance a model connecting basic psychological needs theory, enrichment theory (Greenhaus & Powell, 2006), and parenting styles (Darling & Steinberg, 1993). This research seeks to answer (1) whether the satisfaction of psychological needs in one role may be related to enrichment states and behaviors in an alternate role, (2) whether, and for whom, need satisfaction through home and work roles relate to ensuing feelings of enrichment (states of positive affect, perspective-taking, and vigor), and lastly, (3) whether enrichment states predict the expression of different parenting styles.

Specifically, I relate the satisfaction of basic needs through work and nonwork roles to resulting positive work-family and family-work enrichment states and expressed parenting styles at home. I argue that the satisfaction of workers' basic psychological needs may generate positive states that will inform behaviors in their role as a parent. Need fulfillment is likely to promote improved performance in a subsequent role through the provision of positive affect, perspective-taking, and vigor (Carlson et al., 2006). Working parents who experience such enrichment states may be predisposed to enact some parenting styles over others. The traditional parenting styles differ from each other along the orthogonal dimensions of control (focusing on establishing structure) and responsiveness (focusing on warmth and acceptance) towards the child (Darling & Steinberg, 1993; Maccoby & Martin, 1983; Smetana, 2017). Workers experiencing positive affect, taking their child's perspective, and feeling vigorous may uniquely be inclined to exhibit higher levels of control and/or responsiveness in their parenting, in line with the theorized nature of the psychological experience of each of these states.

In all, this theoretical model and study offers unique contributions to literatures on basic psychological needs, the work-family interface, and parenting. First, in adopting a within-person approach, I contribute to basic needs theory by investigating whether basic need fulfillment in

one role may spillover to a separate role and affect functioning through the generation of positive states. Research on need fulfillment within various domains (e.g., work, leisure) has tended to evaluate the implications of need fulfillment for outcomes within the same domain, and at the between-person level (Coxen et al., 2021; Ryan & Deci, 2017). I further this area of research by proposing that basic need fulfillment in one domain may “spillover” within-person by leading to positive states experienced in a separate domain. Considering the importance of need fulfillment for outcomes including well-being, performance, and commitment within the same domain (Olafsen et al., 2018; Van den Broeck et al., 2010), it is important to understand whether, and how, need fulfillment in one domain may contribute to states and performance in another domain. Evaluating whether need fulfillment through the home domain relates to positive resource states is valuable to understand how home roles may have a positive, rather than detracting, effect for workers. Indeed, theorists have called for within-person investigations into need satisfaction as one means of furthering insight into the dynamics of work-family interactions (Warner & Hausdorf, 2007). In daily life workers may enter and exit multiple roles, and a within-person approach is needed to gain insight into the implications of having needs fulfilled within one role for subsequent states and experiences within a separate role.

Second, I contribute to the work-family literature and interdisciplinary literatures on parenting (e.g., within developmental psychology and family science) by studying the immediate antecedents of parenting styles/behaviors, at the within-person level. Parenting styles have received a great deal of research attention, culminating in evidence that some styles are generally more or less beneficial for children’s’ development (Brown & Iyengar, 2014; Kuppens & Ceulemans, 2019; Masud et al., 2019; Pinquart & Gerke, 2019; Spera, 2005). However, they have overwhelmingly been conceptualized and studied at the stable, trait-level predictors for

child-related outcomes. Emerging evidence indicates that the experience of need satisfaction may inform parenting (Mabbe et al., 2018; Van Der Kaap-Deeder et al., 2019). There remains little understanding of the factors, particularly of the work-related factors, that influence the extent to which parents enact a given parenting style. I contribute to the literature by studying parenting styles as outcomes of parents' work and family experiences, and as behaviors that may fluctuate based on individual and contextual factor. Doing so extends understanding of how work experiences influence whether or not these styles are expressed. Mapping the psychological antecedents of parenting style expression can be one means of helping parents express desired and effective methods of parenting.

Third, I connect SDT with Greenhaus and Powell's (2006) enrichment theory to develop a better understanding of how work and nonwork experiences inform performance across either domain, and parenting behaviors specifically. Work-family theorists have called for theoretically driven process approaches to better understand the questions of how, and why, the spillover of states between roles occurs (Allen et al., 2019; MacDermid & Harvey, 2006; Warner & Hausdorf, 2007), seeing as it is fundamentally a within-person process (Westman, 2001). Scholars have noted that experience sampling research is required to study the actual starting points to and understand the process of enrichment (Lapierre et al., 2018). I present need fulfillment in the work or family role as a mechanism to understand when enrichment is likely to occur—with implications for parenting.

In light of the bountiful research on spillover and crossover between partners, children stand as the neglected stakeholders in research on work and family (Allen, 2013; Major et al., 2004). The more limited body of study on how parents' work influences their interactions with their children has devoted little attention into understanding the processes (Cho & Ciancetta,

2016). The work-family literature more broadly has also been criticized for a greater focus on work than on nonwork life and ambiguity regarding the nature of the relationship between work-family experiences and states (e.g., Allen, 2013; Nohe et al., 2015). Studying dimensions of basic need fulfillment and enrichment at the state-level and parenting behaviors can grant a more informed window into the nature of the linkages between these constructs, as they may arise in working parents' daily life (Gabriel et al., 2019). Incorporating theory on basic psychological needs with theory on work-family enrichment can thus help explain how and why work and nonwork experiences and states influence parenting.

Basic Psychological Need Fulfillment

SDT has been described as a “meta” (Gagné & Deci, 2005) or “macro” (Deci et al., 2017) theory, encompassing cognitive evaluation theory, organismic integration theory, causality orientations theory, and basic needs theory (Sheldon et al., 2003). Central to SDT is the concept of universal basic psychological needs for autonomy, competence, and relatedness (Gagné & Deci, 2005; Ryan & Deci, 2000). Scholars have generated a number of criteria for deeming a need to be fundamental/universal, including that a need applies to all people and that its satisfaction/frustration plays an essential role in well-being (Baumeister & Leary, 1995; Vansteenkiste et al., 2020). Within SDT, the three basic needs are defined as “psychological nutrients”, resources that individuals require to develop (Ryan, 1995). Basic needs transcend culture and individual differences. Thus, basic psychological needs are positioned as necessary resources for well-being and functioning.

Autonomy is defined as the sense that one's actions are of one's own volition. Relatedness is a feeling of connection and belongingness with others, and competence is a sense of feeling self-assured and able (Ryan & Deci, 2000; Ryan et al., 2006). When these needs are

satisfied, people are able to experience intrinsic motivation, characterized by interest and enjoyment in the activity, or internalized motivation, characterized by identification and integration of the activity with oneself (Gagné & Deci, 2005). There is empirical support from between-person studies that when people feel as though their basic needs are satisfied, they also tend to experience greater well-being (e.g., Chen et al., 2015; Sheldon et al., 2004), motivation (e.g., Autin et al., 2022; Klaijsen et al., 2018; Liu et al., 2021), and performance (e.g., Liu & Flick, 2019; Sheldon et al., 2013; Wörtler et al., 2020). These relationships between need fulfillment and indicators of functioning also emerge in meta-analyses (Van den Broeck et al., 2016; Stanley et al., 2021; Tang et al., 2020), and have been successfully applied to predict an array of work states and behaviors (see Deci et al., 2017, for a review of SDT applied to the work context).

Those whose needs are not met instead experience less autonomous and more controlled forms of motivation, or amotivation. Or, worse than a lack of fulfillment, the basic needs can also actively be thwarted (Bartholomew et al., 2011). As opposed to just not gaining fulfillment, in this case, the attainment of these needs may actively be impeded or threatened. In contrast to fulfillment, need frustration relates to poor functioning in the form of negative emotions, burnout, and health behaviors (e.g., Bartholomew et al., 2011; Trepanier et al., 2016), including over and above ill effects from the lack of need satisfaction (Bartholomew et al., 2011).

There are alternative theoretical arguments about the appropriateness of studying the unique satisfaction of autonomy, competence, and relatedness versus collapsing them for an index of overall need satisfaction. Based on SDT, the three needs are theorized to be distinct. Each need is theorized to be satisfied through particular experiences and is not dependent upon whether or not another need is or is not satisfied (Vansteenkiste et al., 2020). However, scholars

have also argued that it can be appropriate to average basic needs in research, when theoretically each need is expected to have the same relationship with focal predictors (e.g., workplace autonomy support, Deci et al., 2001) and outcomes (e.g., contextual performance, Rosen et al., 2014). Scholars have also argued for the appropriateness of studying composite need satisfaction on the basis that experiences that satisfy one need satisfy the others (Van den Broeck et al., 2008).

The empirical record evaluating the unique effects of need satisfaction and general need satisfaction is also mixed. Some work features and outcomes may differentially relate to each need. For example, cognitive demands were negatively related to competence and relatedness need satisfaction, but not to autonomy need satisfaction (Van den Broeck et al., 2016). On the other hand, workload and emotional demands were related to lower levels of competence and autonomy need satisfaction, but not relatedness need satisfaction (Van den Broeck et al., 2016).

This said, empirically, the three needs tend to be strongly correlated, and have alternately been considered as separate constructs or collapsed and studied as need satisfaction or frustration (e.g., Chen et al., 2015; Li et al., 2019; Nishimura & Suzuki, 2016). The majority of the research on need satisfaction has focused on the between-person level, and there is some evidence that antecedents and consequences of state-level needs can differ (Coxen et al., 2021). However, daily and weekly diary studies of need satisfaction may also alternately consider the needs separately or together as general need satisfaction (Coxen et al., 2021). In general, experiences that support the satisfaction of one need tend to also be supportive of the other needs being satisfied, and if an experience thwarts the satisfaction of one need, it is likely to thwart satisfaction of the others (Vansteenkiste et al., 2020).

To further complicate matters, scholars have also raised the potential of more finely dividing and refining the three core needs by distinguishing facets within them (such as separate “giving” and “receiving” facets of relatedness, Vansteenkiste et al., 2020). These different approaches are reflective of the wider philosophical debate over the relative appropriateness of studying broad or narrow constructs (i.e., the bandwidth versus fidelity, Hogan & Roberts, 1996). Of course, there are invariable trade-offs between studying narrow or broad constructs. The general point of guidance is to match the breadth of a construct to that of the criterion of interest (Hogan & Roberts, 1996).

In this dissertation I study need satisfaction as a composite construct. This may be appropriate considering that scholars have opted to study composite need satisfaction in cases where theoretically the expected relationships between predictors and outcomes of each individual need should be the same (e.g., Deci et al., 2001; Rosen et al., 2014; Van den Broeck et al., 2008). Feelings of autonomy, competence, and relatedness should share similar connections to enrichment states. The fulfillment of each need is a positive experience, and each should similarly relate to positive enrichment states (here, positive affect, perspective-taking, and vigor). I expand on the connection between need satisfaction and enrichment states further later in this text.

Implications of Need Satisfaction Within-Person and Across Domains

The domain and context for an activity determines need satisfaction. In SDT, the environment is directly implicated in either allowing for or constraining the fulfillment of these needs (Vallerand et al., 2008). Deci and Ryan (2012) have discussed that the social context within which an individual is embedded will influence their need satisfaction, noting that some environments may allow for needs to be fulfilled more easily than others.

Research in a given field has tended to study the outcomes of need fulfillment within that specific domain (e.g., need satisfaction through leisure activities: Leversen et al., 2012; work: Van den Broeck et al., 2008; physical activity: Gunnell et al., 2013; physical education: Barkoukis et al., 2010, or school: Zhou et al., 2021). Given the established importance of need fulfillment for overall functioning and the fact that individuals tend to occupy multiple roles, a relatively overlooked question concerns the implications of having needs fulfilled in one role for outcomes in a subsequent role. The nature of the fact that individuals occupy multiple roles means that when they assume their role as a worker, this does not mean that their immediately preceding experiences as a partner or parent have no bearing on their mental state, and vice versa. Rather, their experiences at work or at home may have lasting repercussions for their focus and psychological status through the rest of their day, including through transitions between roles. This is one basis of the enhancement hypothesis, which suggests that occupying multiple roles may have a positive effect on well-being (Allen, 2013; Crouter, 1984). Social roles tend to require an actor to fulfill duties and meet certain expectations, and in doing so, research indicates that their basic psychological needs can be met (Bettencourt & Sheldon, 2001).

The spillover effects of need fulfillment merit study for the potential to illuminate the outcomes of need satisfaction across roles, moving beyond the focus on same-role outcomes. Potential spillover effects from need satisfaction may have received little attention due to the fact that the bulk of research on need satisfaction and outcomes has been conducted at the between-person level. Instead, a within-person investigation is needed to clarify the lasting implications of the experience of need satisfaction, through role transitions. The question of spillover effects of need satisfaction carries practical relevance for work-life design to capitalize on the supportive effects of need satisfaction, given multiple life roles.

Research suggests that need satisfaction does exhibit intraindividual variability. For instance, Campbell et al. (2018) found that students experienced reduced need satisfaction in the weeks comprising an exam period, and that need satisfaction increased in weeks following the exam period. Moreover, changes in need satisfaction were indirectly related to sleep quality and quantity, as mediated by feelings of stress. Ryan et al. (2010) examined the relationships between need satisfaction on weekdays versus weekends with well-being in an experience sampling study with working adults. They found that work experiences were associated with lower levels of need satisfaction, whereas weekends were associated with greater need satisfaction. Moreover, feelings of autonomy and competence partially mediated the positive link between weekend days with positive affect and feelings of vitality. Howell et al. (2011) likewise studied the association between state-level need satisfaction and positive states. These scholars found a positive relationship between hourly levels of autonomy and relatedness and state happiness, but a negative relationship between competence and happiness. This research illustrates not only that feelings of need fulfillment vary substantially within-person over time, but also that state need fulfillment may potentially lead to the experience of related positive states.

Coxen et al. (2021) conducted a recent review of articles ($k = 21$) on psychological need satisfaction at the within-person level. They provide clear evidence that need fulfillment exhibits significant within-person variance, and may even tend to vary more at the day-level (between approximately 40-70% of variance attributed to the within-person level) compared to the week-level (between 20-60%). In terms of the within-person outcomes, need satisfaction is related to positive states including work engagement, positive affect, and happiness, and lower levels of negative symptoms and states, including stress, anxiety, and negative affect. For instance, van

Hooff and Geurts (2014) found a positive link between working adults' need satisfaction in the evening and their recovery, in terms of higher vigor and lower anxiety. Interestingly, having children was a positive predictor of evening need satisfaction.

Haar et al. (2018) conducted a daily diary study that directly concerns state-level need fulfillment and its relation to the work-family experiences. They found that family-work conflict was associated with lower, and family-work enrichment with higher, autonomy, competence, and relatedness need satisfaction experienced at work. Moreover, autonomy, competence, and relatedness need satisfaction predicted higher next-day work engagement and lower job burnout. Collectively, the growing body of research on within-person need satisfaction indicates that both work and nonwork time and experiences may contribute to need satisfaction, as well as that need satisfaction may lead to assorted well-being states. It seems likely that the feelings that need satisfaction prompts will hold implications for their experiences and behaviors within a separate domain or role.

For initial support for the supposition that having needs satisfied in one domain may contribute to outcomes in another, Lin et al. (2021) questioned whether basic psychological needs fulfilled through positive family experiences would relate to leadership behaviors at work. In two experience sampling studies they found that managers' fulfillment of family need satisfaction was related to their prosocial motivation and ensuing leadership behaviors. This research supports that experiences at home may satisfy basic psychological needs, and may potentially spillover to influence states and behaviors in the work domain.

A body of work conducted at the between-person level likewise indicates that need satisfaction may occur within multiple roles. Milyavskaya et al. (2009) found that adolescents who experienced greater balance in terms of having psychological needs fulfilled across domains

(within school, home, friend groups, and work) tended to have higher reported well-being, lower drop-out intentions, and higher teacher ratings of their self-regulation. In a sample of adults, Milyavskaya and Koestner (2011) also found that needs may be satisfied within several various domains (e.g., work, hobbies, school, family) and, as hypothesized, predicted satisfaction within that domain. Walker and Kono (2018) similarly provide evidence that need satisfaction may occur through multiple roles, but also that the satisfaction of these needs may contribute to positive outcomes outside of their specific domain. They found that working adults may experience basic psychological need fulfillment both through work as well as through leisure activities. Need fulfillment in each domain contributed to overall life satisfaction, mediated by satisfaction within the local domain (work or leisure satisfaction). In all, evidence suggests that the home and work role may be important for satisfying basic psychological needs, as well as that need satisfaction within one role may potentially hold implications for experiences and states beyond the focal domain.

Theoretical Perspectives on Work-Nonwork Interactions

As a result of their basic psychological needs being satisfied through their experiences at work or at home, workers may be likely to benefit from positive states which improve their performance in the alternate role. This enrichment is a concept closely related to positive spillover. The theoretical notion of spillover contends that positive or negative changes (e.g., engagement, stress) experienced in one domain (i.e., work or home) “spillover” for corresponding changes in a subsequent domain (Staines, 1980).

The concept of spillover is differentiated from other early perspectives on the nature of the relationship between work and nonwork roles. The segmentation perspective held that work experiences instead did not have an effect on nonwork experiences (Allen, 2013; Staines, 1980).

The compensation perspective held that workers compensate for feeling as though things are lacking in the work or home domain by turning their attention and energy to the alternate domain (Allen, 2013; Baltes & Heydens-Gahir, 2003). Empirical evidence lends little support to the segmentation hypothesis, some support that compensation strategies may occur, and a substantial degree of support for both positive and negative spillover between work and nonwork domains (Allen, 2013; Staines, 1980).

Lines of research from the work-family interface unequivocally support that states experienced at work inform states experienced at home, and vice versa. Workers may regularly report the experience of work-family enrichment (WFE, whereby experiences at work improve their performance in their role with their family). WFE experiences are in turn associated with positive work outcomes, including greater organizational commitment (Wayne et al., 2006), job satisfaction (Chen et al., 2018; Heskiu & McCarthy, 2021; McNall et al., 2009), and job performance (Kalliath et al., 2022).

Yet, comparatively less attention has historically been paid to home-to-work spillover/family-work enrichment (Agrawal & Mahajan, 2021; Crouter, 1984). However, by and large, research similarly indicates that the family-work enrichment (FWE) occurs and may predict well-being (Agrawal & Mahajan, 2022; Kacmer et al., 2020), and job and life satisfaction (Kacmer et al., 2020; Matei & Vîrgă, 2022), as well as job performance (Kalliath et al., 2022). Meta-analytic findings likewise suggest that both WFE and FWE are related to job and family satisfaction, affective commitment, and physical and mental health (McNall et al., 2010). Moreover, WFE and FWE are linked to better well-being (by way of overall health, burnout, and stress) and satisfaction and performance in both work and family roles (Zhang et al., 2018). Yet,

WFE tends to be more closely linked to work-related outcomes and FWE to non-work outcomes (McNall et al., 2010; Zhang et al., 2018).

Stemming from the concept of spillover and theorizing on roles (Kahn et al., 1964), several theoretical mechanisms have been proposed to explain how experiences in one domain may influence outcomes in an ensuing domain. Early competing perspectives focused on the effects of occupying multiple roles for workers' health and performance. Roles are defined by social expectations about what constitutes appropriate versus inappropriate behavior in a given situation (Kahn et al., 1964).

As mentioned earlier, role enhancement (also referred to as expansion or accumulation) contends that multiple roles are beneficial for well-being (Marks, 1977; Sieber, 1974). Inhabiting additional roles may grant more opportunities to gain or experience resources, such as a sense of power and security, positive emotions, and self-esteem (Sieber, 1974). Role enhancement was explicitly applied to the notion of daily transitions between roles. Marks (1977) argued that experiences in one role may generate energy that carries over and benefits a person when they assume a new role. Crouter (1984) expanded this perspective to offer that positive spillover may take the form of not only energy, but also educational and psychological gains transferring between roles.

Such boosting effects are contrasted with the pessimistic outlook of multiple roles presented in the scarcity hypothesis. The scarcity hypothesis formed the backbone of a large corpus of research on negative spillover between work and nonwork. According to this hypothesis, inhabiting multiple roles increases the likelihood of experiencing role strain from competing demands on a worker's finite amount of time and energy (Goode, 1960). The competing enhancement and scarcity perspectives spurred empirical research into the correlates

of multiple roles and responsibilities, ultimately resulting in the takeaway that multiple roles appear to be more likely to enhance well-being (Allen, 2013; Froberg et al., 1986; Hong & Seltzer, 1995).

Of course, the beneficial aspects of enhancement continue to be tempered with the qualification that multiple highly demanding roles may nevertheless result in role overload and stress (e.g., Barnett & Baruch, 1985). Conflict between roles (such as work-to-family or family-to-work interference) may emerge when the demands of each role upon workers, in terms of their time, behaviors, efforts, or emotions, are incompatible (Greenhaus et al., 2006; Greenhaus & Beutell, 1985). Findings suggest that negative spillover (e.g., in the form of work-family conflict) and positive spillover are orthogonal constructs that may co-occur (Greenhaus & Powell, 2006). In this way, occupying multiple roles may present both risks and rewards.

Theoretical Perspectives on Positive Spillover

Beyond the formative theorizing on whether roles may enhance or drain workers, scholars continued to present related concepts to further map the nature and process of spillover, including work-family facilitation (Frone, 2003; Grzywacz, 2002), enhancement (Barnett & Baruch, 1985), and enrichment (Greenhaus & Powell, 2006). Researchers have tended to use these various terms interchangeably. Indeed, these concepts are not easily distinguished from each other and may contain conceptual overlap (Greenhaus & Powell, 2006; Hanson et al., 2006). Work-family positive spillover has appropriately been described as a meta-construct related to facilitation, enhancement, and enrichment (Zimmerman & Hammer, 2010). The occurrence of positive spillover, as the transfer of various gains between roles, may initiate facilitation, role enhancement, and enrichment, which further hold that this transfer has a positive effect in the receiving role (Wayne, 2009).

Facilitation. The main thrust of work-family facilitation is again that the work and family domains depend upon and may support one another. Wayne et al. (2007) define facilitation as “*the extent to which an individual's engagement in one life domain (i.e., work/family) provides gains (i.e., developmental, affective, capital, or efficiency) which contribute to enhanced functioning of another life domain (i.e., family/work).*” One differentiating factor in this perspective of positive spillover is that theorists demarcate the overall domain, or system (e.g., the family system, comprising all family relationships) as the unit of focus, as opposed to a focal individual worker (Wayne et al., 2007). Building from previous theorizing on the mechanisms of positive spillover (Marks, 1977, Crouter, 1984), facilitation may arise through not only educational/developmental and affective gains, but also through enabling actors to be more efficient in performing another role, and by generating capital (e.g., money, social network contacts).

Work-Family Enhancement. As another perspective on the process by which positive spillover may occur, work-family enhancement is closely connected to the foundational concept of role enhancement. The core element of this argument is that positive spillover between roles occurs because involvement in one role grants undifferentiated positive resources (Kirchmeyer, 1992a, 1992b). Concerning work-family and family-work enhancement as forms of role enhancement, scholars have also argued that the time spent within a role is more likely to have an enhancement effect on a subsequent role when the worker feels as though it is meaningful and personally satisfying (Thompson & Bunderson, 2011).

Enrichment Theory. As another development in research on positive spillover, enrichment theory offers several advantages. Greenhaus and Powell (2006) outline a route to further delineate how and when enrichment may arise. Greenhaus and Powell (2006) argue that

work-to-family or family-to-work enrichment occurs when involvement in one role (work or family) lead to increased quality of life and performance in the other domain.

Enrichment theory uniquely delineates between an instrumental and affective path underlying role enrichment. The resources or positive affect generated in one role are proposed to relate to increased performance in an alternate role. Specifically, Greenhaus and Powell propose that the categories of skills and perspective, flexibility, and assorted psychological and physical, social-capital, and material benefits are all valuable resources that may be generated within a particular role (work or family). These resources are predicted not only to improve performance within the role in which they originate, but also within the alternate role (the instrumental path). Moreover, they may also lead to the experience of positive affect (i.e., the affective path) that will also increase performance in the alternate role.

Carlson et al. (2006) further refined the concept of enrichment by developing a measure presenting three dimensions for work-family enrichment (development, capital, and affect) and family-work enrichment (development, efficiency, and affect). These dimensions are in keeping with Greenhaus and Powell's (2006) instrumental and affective paths for enrichment. Work-family and family-work development, continuing from earlier elaboration on educational gains (e.g., Crouter, 1984), is defined as resource gains in the form of learning new skills, knowledge, behaviors, or perspective that contribute to better performance in the alternate role. Work-family capital is defined as psychosocial resources, including feelings of security, confidence, accomplishment, or fulfillment, gained through work, that allow someone to be better in the family role (Carlson et al., 2006). Family-work efficiency instead is when occupying a family role generates a sense of focus or urgency which contributes to greater work performance (Carlson et al., 2006). Finally, representing the affective route, work-family and family-work

affect are simply when positive emotions or mood in one domain boost performance in the other (Carlson et al., 2006).

Advantages and Support for Enrichment

As reviewed, there is considerable overlap between the various mechanisms of facilitation, enhancement, and enrichment. Greenhaus and Powell (2006) went so far as to label these various constructs as synonyms. Yet, there are conceptual distinctions to be made. For one, enrichment theory concerns a given actor's performance in the work and family roles, and thus is more appropriate for studying individual behaviors and outcomes compared to facilitation, which is defined as improved system functioning (Wayne et al., 2007). For instance, if the money that a worker earns through employment supports overall family functioning, by lessening economic concerns and providing for material needs, this constitutes facilitation, even if the worker's performance as a family member is not affected by their work experiences (Wayne, 2009).

Empirical work offers some indication that the instrumental and affective resource paths delineated in enrichment theory may more appropriately characterize the processes by which involvement in one role has a positive influence on another. In an effort to achieve conceptual clarity between various constructs associated with positive spillover, Wayne (2009) delineated positive spillover as the transfer of gains between roles, and enrichment as further including positive performance boosts from this transfer. Masuda et al. (2012) embarked on a comparison of scales for positive spillover (Hanson et al., 2006) and work-family enrichment (Carlson et al., 2006). This research team found empirical support that positive spillover is a necessary precursor of work-family enrichment, aligning with Wayne's (2009) theoretical distinction of these concepts. Further, in a comparison of CFA models, Masuda and colleagues (2012) found that differentiating between factors of general spillover and enrichment and subfactors of

instrumental and affective resources achieved the best fit. Based on results from two more studies, they also concluded that the instrumental and affective dimensions of resources explained unique variance in the outcomes of life and job satisfaction. Moreover, work-family enrichment accounted for variance in these outcomes over and above positive spillover. These results suggest that work-family enrichment may more appropriately explain key satisfaction outcomes, in comparison to related constructs such as facilitation and enhancement.

Enrichment as a Process

What, then, may actually cause enrichment from one domain to another to occur? By and large more research attention has been paid to the outcomes of positive spillover than to precipitating events (Zimmerman & Hammer, 2010). However, certain resources have, as theorized, been positively linked to spillover. Zimmerman and Hammer (2010) and Crain and Hammer (2013) both reviewed research on the antecedents of enrichment. Individual factors, including core self-evaluations (McNall et al., 2011), a secure attachment style (Sumer & Knight, 2011), and personality traits (Michel et al., 2011a) are associated with positive spillover or enrichment between roles. In terms of contextual antecedents, organizational (McNall et al., 2011), family (Siu et al., 2010), and supervisor support (Hammer et al., 2009; Thompson & Prottas, 2006), as well as autonomy (Grzywacz & Marks, 2000; Siu et al., 2010) are likewise positively linked to enrichment. There are mixed findings regarding whether job demands have a positive (Mustapha et al., 2005; Voydanoff, 2004) or negative relationship (Butler et al., 2005) with facilitation. Meta-analytic results also find support for trait positive affect, social support (at work or from family), and autonomy as predictors of enrichment (Lapierre et al., 2018). In a meta-analytic path model, work engagement also mediated the relationship between contextual antecedents and work-family enrichment (Lapierre et al., 2018).

Yet spillover is fundamentally conceived of as a within-person process (Westman, 2001). Within individuals, how do these various contextual and individual features relate to increased performance in an alternate role? In order to explain enrichment as a process, ten Brummelhuis and Bakker (2012) presented a taxonomy of resources organized by source (contextual or personal) and transience (volatile or structural). They include mood, physical and mental energy, attention, and time as more immediate personal resources. ten Brummelhuis and Bakker (2012) also drew from Conservation of Resources (COR) Theory (Hobfoll, 1989) to describe how initial resource gain is conducive to further resource gain, portraying enrichment as a process. Connecting theory on basic need satisfaction and enrichment, I suggest that daily experiences of need fulfillment through the work or family role may contribute to improved performance in the alternate role through the provision of enriching transient resources. In this way, I argue basic need fulfillment as the key mechanism that may connect wider contextual workplace features (e.g., social support, autonomy) and the experience of enriching positive states, as one such resource gain spiral (Hobfoll, 1989; ten Brummelhuis & Bakker, 2012).

Basic Psychological Need Fulfillment and Enrichment in the form of Positive Affect, Perspective-Taking, and Vigor

Theory and research have made inroads in connecting basic psychological need fulfillment and enrichment theory, albeit in different approaches. Scholars have researched and found support that authority figures, such as teachers or coaches, may engage in practices that support or thwart youths' need fulfillment (e.g., by behaving in a guiding or attuning manner, versus an abandoning or domineering manner, Aelterman et al., 2019; Vermote et al., 2020). This line of research indicates that adults' mentoring behaviors towards children may inspire children's needs to be satisfied. The reverse relationship is just as deserving of study—how may

working adults' *own* need fulfillment inform the parenting behaviors that they are likely to engage in?

Warner and Hausdorf (2007) directly implicated need fulfillment as a mechanism that may drive the experience of work-family enrichment. They position basic psychological need fulfillment in work and home as a psychological benefit that will lead to positive affect and performance in the alternate role, as featured in enrichment theory. Their theoretical integration of basic need theory and enrichment theory is valuable for taking initial steps to outline how basic need fulfillment may be a relevant antecedent of enrichment. Yet this model restricts the role of basic needs to an association with positive affect and does not incorporate further established positive state-level resources that should be relevant for role performance. Instead, I argue that, at the within-person level, basic need fulfillment may be likely to spur the experience of additional enriching states that support higher performance in a separate domain.

As outlined, ten Brummelhuis and Bakker's (2012) Work-Home Resources model frames enrichment as a process in which contextual resources (such as autonomy and social support) from home or work lead to the development of personal resources. This perspective grants the valuable insight that stable domain features may support improved performance by creating short-term personal resources including, but not limited to, positive mood. Accumulated personal resources then allow for growth in a positive spiral.

How might various contextual domain features and experiences actually lead to growth, or enrichment, as defined by improved performance in an alternate role (ten Brummelhuis & Bakker, 2012)? Theoretically, basic psychological needs are defined as "nutriments" that are "essential for individuals' adjustment, integrity, and growth" (Ryan, 1995). Empirical evidence indicates that presence of contextual resources within a domain may facilitate basic need

satisfaction within that domain (Coxen et al., 2021; Van den Broeck et al., 2016). Extending the nutriment analogy a step further, and in connection with ten Brummelhuis and Bakker's (2012) thoughtful groundwork illustrating enrichment as a process, need fulfillment should serve as the core building block which spurs transient affective, cognitive, and energy-based personal resources which facilitate subsequent role performance.

The experience of need satisfaction may support positive growth (Ryan, 1995; ten Brummelhuis & Bakker, 2012) as improved performance through different routes, as specified in enrichment theory (Greenhaus & Powell, 2006). For one, need satisfaction may be likely to help workers be a better family member by granting positive affect. Given the centrality and essential nature of basic needs, the experience of autonomy, competence, and relatedness being fulfilled is generally likely to result in the experience of positive emotions. SDT distinguishes between hedonic (i.e., subjective well-being, happiness) and eudaimonic (living well in terms of functioning and realizing potential) well-being, with the latter achieved through basic needs being met (Ryan & Deci, 2000; Ryan et al., 2006). Accordingly, the experience of positive affect alone does not represent well-being according to tenets of SDT.

Yet, scholars have also critiqued SDT for not incorporating affect more centrally in discussions of how behavior is motivated, given evidence that affect is often a precipitating influence on motivation (Isen & Reeve, 2006; Vandercammen et al., 2014). At the state level, feeling a close connection with others, experiencing a sense of volition in one's actions, and feeling capable are themselves positive and rewarding (Sheldon et al., 1996), and thus likely to generate transient positive affect.

Ten Brummelhuis and Bakker's (2012) WH-R model points to positive mood as a transient personal resource that is developed in response to transient contextual resources in a

role, and that allows for higher performance in a following role. Merging with basic needs theory, contextual resources, such as autonomy, performance opportunities, and social support, may allow for experiences that satisfy autonomy, competence, and relatedness needs, which will give rise to resource states, including positive emotions. In general, there is some empirical support that day-level satisfaction of all three needs is associated with positive affect (Foult et al., 2019; Vandercammen et al., 2014).

Further, if a worker feels as though their needs have been satisfied through their home role, or through the work role, the meaningfulness and importance of this need satisfaction should grant positive emotions which support role performance. Having one's most important, core psychological needs satisfied is a fundamentally positive experience that should give rise to positive feeling states. For empirical support of this claim, estimates from a meta-analysis of research at the between-person level indicate that the fulfillment of basic psychological needs accounts for unique variance in positive affect (Van den Broeck et al., 2016). Studies at the within-person level similarly indicate that basic need fulfillment tends to precede the experience of positive affect (Coxen et al., 2021). Basic need satisfaction has also been theorized to generate positive affect which allows for better role performance (Warner & Hausdorf, 2007).

Likewise, need satisfaction may encourage workers to expand their mindset outside of themselves, making them more sensitive in their parenting because they adopt their child's viewpoint (i.e., perspective-taking). Perspective-taking represents actively envisioning another person's point of view (Flavell, 1992), and is understood to be a more complex cognitive process that allows for empathy (Bartunek et al., 1983). Basic need fulfillment is theorized to poise individuals for growth (Deci & Ryan, 2000), which may additionally be represented by more cognitive flexibility and consideration of others rather than a focus on the self. The growth and

development described by need fulfillment within SDT is discussed as the self becoming increasingly more complex and connected to others (Deci & Ryan, 1985; Hodgins & Knee, 2002; Ryan, 1995).

Based on this understanding, self-determination should facilitate perspective-taking, particularly for close others (Knee et al., 2013). Hodgins and Knee (2002), for example, discuss that self-determination, with needs being satisfied, will lead to greater cognitive openness. Need satisfaction should produce a sense of inner confidence and sense of worth (Hodgins & Knee, 2002; Sheldon et al., 2004). This holistic state of well-being promotes further learning by allowing people to be more open to their environment (rather than instinctively reacting defensively towards new stimuli) as it grants a sense of safety and serenity. This argument is also consistent with Fredrickson's (2004) broaden-and-build theory, which holds that positive emotions encourage openness and growth, as opposed to negative emotions, which motivate people to focus more narrowly on securing protection. Thus, basic need satisfaction is likely to lead to parents taking children's perspectives, as perspective-taking is one example of cognitive openness that is additional focused out from the self and towards others in the social environment.

Finally, need fulfillment should also generate personal resources in the form of energy that supports workers to enact the role of a parent more effectively. Vigor is the energy-based dimension of engagement (with engagement also comprising dedication and absorption in a particular role, Bakker et al., 2014; Schaufeli & Salanova, 2011; Schaufeli et al., 2006). Vigor is defined as having energy and mental resilience for tasks; in effect, the opposite of exhaustion (Schaufeli et al., 2006). Whereas dedication represents willingness to perform in a role, vigor more adequately represents a personal resource, as the capacity to perform (Schaufeli &

Salanova, 2011). As such, vigor is conceptualized as a transient personal resource in the WH-R model, which references both physical and cognitive energy as resources (ten Brummelhuis & Bakker, 2012). Having the needed energy available to draw upon for parenting activities may be a requirement for workers to perform effectively in these activities.

Also consistent, according to Deci and Ryan (2000), the satisfaction of autonomy is itself energizing and leads to greater well-being. Campbell and colleagues (2018) indicate support for a link between the fulfillment of autonomy needs and energy. Satisfaction of the need for competence may also be energizing, in that this sense of success and efficacy may prompt general feelings of empowerment and feelings of strength. Achieving a sense of relatedness to others may also be experienced as buoying, or uplifting, which may imbue workers with energy. For instance, by contrast, loneliness is connected to feelings of fatigue and low energy (Hawkey et al., 2010).

Need satisfaction has generally been proposed to maintain and generate energy (Ryan & Deci, 2008). Basic need fulfillment is also proposed to allow for growth and self-expansion by serving as the basic nutriments for development (Vansteenkiste et al., 2020). Accordingly, need fulfillment should also generate feelings of vigor, as energy to perform constitutes a core state-level personal resource that may be required for high performance, or growth, as discussed in the WH-R model and basic needs theory (Ten Brummelhuis & Bakker, 2012; Deci & Ryan, 2000).

Hypotheses 1a-c: Within-person need satisfaction through the work role will be positively related to state (a) positive affect, (b) perspective-taking, and (c) vigor.

Hypothesis 2a-c: Within-person need satisfaction through the home role will be positively related to state (a) positive affect, (b) perspective-taking, and (c) vigor.

However, based on recommendations to examine relationships between needs separately at the within-person level (Coxen et al., 2021), I pose the following research question to investigate within-person connections between need satisfaction and enrichment dimensions:

Research Question 1: At the within-person level, will relationships between autonomy, competence, and relatedness need satisfaction through the work or home role and positive affect, perspective-taking, or vigor, differ?

Work-Family Centrality as Moderators.

The constructs of work and family centrality refer to the overall importance of either domain that an individual assigns to their life (Carr et al., 2008). One tenet of enrichment theory is that the salience of a role is expected to moderate the relationships between resources generated and positive affect experienced in a role and performance in an alternate role (Greenhaus & Powell, 2005). The extent to which a role is valued to the self may dictate how influential experiences and states that occur within that role are, by virtue of the reasoning that they should matter more if the role is seen as more meaningful.

Centrality variables have been evaluated as moderators of organizational and family variables and work-family and family-work conflict. Carlson and Kacmer (2000) conducted a survey study to assess differences in relationships between stressors, work-family conflict variables, and domain satisfaction. They found that for workers with high work centrality and low family centrality, family role conflict and family interference were both more strongly related to work role ambiguity, job involvement, and job satisfaction (compared to workers who viewed both work and family as highly central). Instead, for workers high in both work and family centrality, work role conflict was more strongly associated with job satisfaction, and job satisfaction was more strongly associated with life satisfaction. In another comparison, they

found that the negative relationships between work stressors and job satisfaction were stronger for those with high family but low work centrality, in comparison to those with both low work and family centrality. These findings illustrate that the associations between stressors in the work or family role and well-being outcomes may depend upon how central the role is to one's sense of self.

Carr et al. (2008) also found that family centrality interacted with work-interference-with (WIF) family in predicting turnover, commitment, and job satisfaction, such that WIF was more strongly connected to work outcomes for those for whom family was central. They interpret these findings on the basis that when conflict arises, individuals may be more likely to blame the domain that is less central to the self. Given this attribution, their ensuing actions and feelings will result in more positive outcomes in the valued domain and more negative outcomes in the less-valued domain. Cheng et al. (2019) found that work centrality moderated the relationship between family incivility and work-family conflict. Those who viewed work as central to their identity may have tended to allocate more resources and attention into work over family, resulting in more negative spillover from family (given the lack of attention into managing and sorting incivility in this domain) into work.

Given the stronger emphasis, or centrality, of the family in China and of work in North America, Jin et al. (2013) hypothesized and found that family-work spillover effects tended to be stronger in a Chinese sample, whereas work-family spillover was more pronounced in a North American sample. In a meta-analysis, Michel et al. (2011b) also found that work centrality positively related to work-family conflict. Yet, role centrality may also inform how rewarding and beneficial experiences in a role may be. Wayne et al. (2006) found that the extent to which an individual identified with their work or home role was associated with greater enrichment in

that role. Collectively, these studies provide support that spillover originating in the work or family domain may be more likely to occur when the role is central to the self.

In summary, work and family centrality may inform the degree of the impact of experiences in a given role for the self. The effect of basic needs being fulfilled through the work role may be more impactful for workers' whose sense of self is more strongly defined through work, just as the implications of need satisfaction through the home role may have a stronger association with ensuing psychological states for those whose sense of identity is based on family. Although need satisfaction in one domain may still be relevant for predicting satisfaction with the domain, as indicated (Milyavskaya & Koestner, 2011), the extent to which need satisfaction elicits energizing enrichment states may be contingent upon how important and valued that role is to the self.

As Greenhaus and Powell (2006) detail in enrichment theory, the degree to which a resource supports higher performance and positive affect in a separate role is contingent upon its salience to the self. At the within-person level, need satisfaction in a role may be more likely to spur enrichment states which support subsequent role performance when the role in which needs are satisfied is salient. Other work-family theorists have also put forth the centrality of a role as a boundary condition for spillover to occur. In discussing the necessary conditions for positive spillover to occur between roles, Thompson and Bunderson (2011) hypothesize that an individual must feel as though the time that they have spent occupying a given role is meaningful to them in order for it to result in positive spillover. Thompson and Bunderson position the role of the self as central to determining whether or not enrichment from one role to another will occur. They specifically describe this phenomenon as "identity-affirming" time within a role.

Workers who do not feel personally attached to a work identity might still be able to enjoy greater positive feelings in their work on days in which their needs are fulfilled in this domain. Yet, need fulfillment in the work domain may need to be experienced as more meaningful and important in order for it to have a greater impact by spilling over to the family role, actuating enrichment states that facilitate performance. That is, need fulfillment in a domain that is felt to be relevant, or central, to one's identity may be more likely to exert stronger and more lasting effects on states and behaviors, through the transition into a separate role.

Put differently, need fulfillment in a role that is central to the self may be more supportive of an individual's flourishing, being more likely to generate enrichment states that support growth and performance in a subsequent role. All in all, the enrichment states of positive affect, perspective-taking, and vigor may be more likely to arise when need fulfillment in a previous domain is experienced as more meaningful—which will occur when the domain is central to the self.

Hypotheses 3a-c: Work Centrality will interact with within-person need satisfaction through the work role, such that the positive relationships between need satisfaction through work and state (a) positive affect, (b) perspective-taking, and (c) vigor will be stronger for individuals with higher versus lower levels of work centrality.

Hypotheses 4a-c: Family Centrality will interact with within-person need satisfaction through the home role, such that the positive relationships between need satisfaction through the home role and state (a) positive affect, (b) perspective-taking, and (c) vigor will be stronger for individuals with higher versus lower levels of family centrality.

Parenting Style Expression

As alluded to, a sizeable portion of research on the work-family interface has interrogated how people's work experiences inform their behaviors with others outside of work, most frequently with a romantic partner. The subfield of crossover builds upon the notion of spillover. States that first spillover from one domain to another may also "crossover" to be experienced by another person who interacts with a worker in the second domain (Westman, 2001, 2006). The spillover of various states from work to home, including burnout (Bakker & Schaufeli, 2000) and distress (Song et al., 2011), but also positive emotions (Westman et al., 2013; Munyon et al., 2009) and work engagement (Tian et al., 2017), is theorized to influence the emotions and behaviors that a focal actor displays when interacting with their partner (Westman, 2001).

Roberts and Levenson (2001) present evidence that the spillover of work experiences and states into nonwork life may influence how people interact with their partner. In a laboratory study, they found that on days in which heterosexual male police officers experienced greater job-related stress they also had less positive and more negative affect, greater cardiovascular activation, and less physical movement when interacting with their wives. Moreover, these negative affective and physiological symptoms tended to become more pronounced over the course of a couple's conversation. For another example, in two studies, Meier and Cho (2019) find support that workers' exposure to stressors at work related to more social undermining of their partner at home (defined by behaviors that display negative affect or criticism). This relationship was mediated by a lower degree of psychological detachment as well as higher negative affect. Likewise, Pluut (2022) found that on days in which workers faced more social stressors in the workplace, their spouses tended to report that they were more withdrawn and less supportive interacting with them at home. These studies illustrate that states experienced at work

hold implications for the behaviors that an individual may express when interacting with another person in the home domain.

Yet, as discussed, a large contingent of workers are also parents, and may regularly interact with a child in their family role. The gulf in research attention paid towards the implications of work states for interactions with a romantic partner compared to interactions with children has led scholars to deem children as the “neglected stakeholder” in research on the work-family interface (Major et al., 2004). Some valuable research indicates that children are affected by their parents’ work experiences, and further, that parents’ work experiences predict whether and how they may interact with their children at home. For example, Asfaw et al. (2021) found that the children of workers who had experienced a work-related injury themselves tended to display lower emotional and behavioral functioning. French et al. (2016) found that adolescents whose parents worked more hours tended to feel that they had less social support from their parents, in part explained by having less time together. Cho and Allen (2012) found that parents who experienced higher work-interference-with-family tended to engage in fewer educational and recreational activities with their children. Fong et al. (2018) further found a negative relationship between work-to-family strain and parenting self-efficacy for working mothers. Given the comparatively limited research attention paid to this topic, it remains unclear how work states, and particularly positive ones, inform *how* parents interact with their children, in terms of parenting behaviors, beyond whether/the type of activities that they engage in.

In the conception of parenting styles, scholars differentiated between dimensions of responsiveness (also referred to as support or warmth) and control (or demandingness, Baumrind, 1967; Darling, 1999; Maccoby & Martin, 1983). This categorization resulted in the four traditional styles of authoritative (high responsiveness, high control), indulgent (high

responsiveness, low control), authoritarian (low responsiveness, high control) and uninvolved parenting (low responsiveness and low control) (Baumrind, 1991; Maccoby & Martin, 1983; Darling, 1999). The research stream spurred by this model has culminated in a general consensus across review articles and meta-analyses that these styles relate to children's well-being and performance, in terms of their academic achievement (Brown & Iyengar, 2014; Spera, 2005), aggression (Masud et al., 2019), and self-esteem (Pinquart & Gerke, 2019), among others.

Understandably, there may also be more nuance in parenting styles beyond only these four profiles. Researchers have continued to make more fine-grained distinctions between parenting styles, such as “positive authoritative” or “intrusive” parenting (Kuppens & Ceulemans, 2019). Parenting practices may also be contingent upon a given situation or domain for socialization (e.g., moral issues, personal issues), to some extent (Smetana, 2017). Modern findings nevertheless continue to demonstrate broad support for the distinction between the four traditional styles and associated child outcomes (Kuppens & Ceulemans, 2019). Authoritative parenting generally tends to be associated with the most positive child outcomes, indulgent and authoritarian parenting is associated with more negative outcomes, and uninvolved parenting is associated with the most negative outcomes (Gorostiaga et al., 2019; Masud et al., 2015; Newman et al., 2008; Sahithya et al., 2019).

Although the vast majority of early research on the outcomes of parenting styles was conducted with samples of middle-class White American families, this model of parenting styles has been found to hold across cultures (Sorkhabi, 2005). Of course, there is also some evidence that forms of parenting may differ between cultural groups (Checa & Abundis-Gutierrez, 2018). It should also be noted that relationships between parenting styles and child functioning may be culturally bound, although findings related to cultural differences are somewhat mixed.

Authoritarian parenting may be associated with more positive outcomes in non-Western samples, such as in Nigerian and Hispanic/LatinX families (Checa & Abundis-Gutierrez, 2018).

Authoritative parenting may remain beneficial for children's development (Sangawi et al., 2015; Sahithya et al., 2019).

Though the correlates of parenting styles for children's outcomes are well-documented, overall less research attention has been paid to uncovering factors that influence whether parents may engage in one style over another. Theoretically, a parent's goals and values are proposed to shape their parenting style (Darling & Steinberg, 1993). Accordingly, parents' socialization goals for their children may predict differences in their parenting, including between cultures (Keller et al., 2005). Neuroscience research further suggests that childhood experiences (such as childhood adversity) may predispose individuals to adopt less-effective practices as a parent, through mechanisms such as depression and disrupted physiological and neurological processes governing attention towards children (Lomanowska et al., 2017). Parents with higher levels of social competence (defined with factors such as empathy and conflict management) may also display greater warmth, structure, and support for children's autonomy, with less rejection, chaos and coercion (Egeli & Rinaldi, 2016). There may also be socio-demographic differences. Parents with a higher education level may endorse greater authoritative parenting, and older fathers may be more likely to be indulgent or authoritarian parents (Bastais et al., 2015).

Parenting is understood to be a "composite activity" (Alizadeh et al., 2011) consisting of many individual and interacting parent behaviors that together influence a child's behavior (Baumrind, 1978). In their highly influential integrative model of parenting styles, Darling and Steinberg (1993) describe parenting style as "a constellation of attitudes toward the child that are communicated to the child and that, taken together, create an emotional climate in which the

parent's behaviors are expressed." Given the accepted definitions of parenting styles as created from individual behaviors, it is also worthwhile to study the proximal factors that may guide parents to actually enact different parenting styles, so as to understand (and thus, potentially influence) the expression of more versus less effective parenting behaviors.

Parenting styles are considered to be fairly stable. However, more recent daily diary research indicates that approximately half of the variance in parenting behaviors (specifically, support for children's autonomy and psychological control, which is generally found to be a damaging form of controlling behavior), can be attributed to the within-person level (Aunola et al., 2013; Van der Kaap-Deeder et al., 2019). Parents' daily control and affection paid towards children is similarly linked to children's emotions and state well-being (Aunola et al., 2013; Van der Kaap-Deeder et al., 2019). A relevant line of study suggests that parents' need satisfaction does indeed relate to their parenting. Mabbe et al. (2018) found that parents' general need satisfaction predicted more autonomy-supportive parenting practices. Van Der Kaap-Deeder (2019) further added that parents' general need satisfaction was indirectly associated with their autonomy-supportive and psychologically controlling parenting behaviors, through their own stress and psychological availability. This research indicates that parents' need satisfaction may be meaningful for understanding their parenting behaviors. Investigating an enrichment-based pathway connecting where needs are satisfied considering work and home roles, and a wider array of parenting behaviors, can enlighten when and how approaches to parenting are expressed.

Work-Family Spillover and Parent-Child Interactions

To reiterate with more specificity, work-family research resoundingly suggests that work states and spillover between domains also hold implications for interactions with others, most prominently explored in the sizeable literature on dual-earner couples (Allen, 2013). For further

examples, in one survey study, men who experienced work engagement also tended to experience greater positive affect, which subsequently related to greater family engagement (Rothbard, 2001). Instead, for women, family engagement predicted subsequent work engagement. In dual-earning couples, one partner's experience of WFE may also crossover to their partner, relating to higher marital satisfaction and organizational commitment for the partner (Carlson et al., 2019). These studies, among others (see Bakker & Demerouti, 2013, Westman, 2016, and Steiner & Krings, 2018, for reviews of spillover and crossover research), indicate that work states may persist across work and home roles, and may relate to interactions and relationships in a subsequent role.

Though less-researched, as noted, parents' experiences at work also influence their interactions with their children at home. Ohu et al. (2019) found conditional indirect effects of work-family conflict on children's health, mediated by parent's self-regulatory resources and moderated by job autonomy and job demands. In their interpretation of these results, they discuss that one mechanism to explain the relationship between parent's job demands and children's health may be parenting behaviors (which may depend on regulatory resources).

In general, parents' stress-inducing work experiences and exposure to job demands predict less responsive parent-child interactions, with greater hostility and discipline, and less affection, paid towards children (Bumpus et al., 1999; Repetti, 1994; Repetti & Wood, 1997). Less-desirable work design features, including low autonomy and supervisor abuse, also relate to less parental engagement with children and lower-quality interactions (Goodman et al., 2008; Goodman et al, 2011). In one study, parents' work pressure was indirectly related to adolescent well-being, via increased conflict between parents and adolescents (Crouter et al., 1999).

Alternately, a family-supportive climate and scheduling and location flexibility may predict greater warmth and engagement for fathers of young children (Holmes et al., 2020). For a final study, Gassman-Pines (2011) found that when low-income mothers worked nighttime hours they tended to have a worse mood, their interactions with their children tended to be more negative (characterized as more harsh and less warm), and children displayed fewer positive behaviors (such as being playful). Thus, although research demonstrates greater focus on negative outcomes, there is clear evidence that parents' work experiences may relate to their interactions with children at home. In a review of the literature on parents' work experiences and children's outcomes, Cho and Ciancetta (2016) relate that far more attention has been paid to studying parents' negative work experiences. In general, there is support that stressful and/or very demanding work may lead to the spillover of negative affect into the home role, and thus more negative parent-child interactions.

Positive Affect, Perspective-Taking, Vigor, and Parenting Style Expression

Enrichment states of positive affect, perspective-taking, and vigor may predispose working parents to engage in some parenting behaviors over others, aligning with the dimensions of demandingness and responsiveness in parenting styles. Enrichment states represent state-level resources that support greater role performance (Greenhaus & Powell, 2006; Ten Brummelhuis & Bakker, 2012). Positive affect, perspective-taking, and vigor each should better allow working parents to be engaged with children.

First, parenting in general is understood to be a demanding role that requires resources to perform (Janisse et al., 2009; Lovejoy et al., 2000). Negative, stressful work experiences are theorized to undermine parent-child interactions by leaving parents with fewer resources to meet children's needs. (Cho & Ciancetta, 2016). To the extent that they are motivated and that

external demands allow, parents who experience any of these positive states may be more likely to interact and involve themselves with their children, demonstrating some degree of responsiveness and/or control—and thus, lower levels of uninvolved parenting.

Positive Affect and Responsiveness. As alluded to, parenting styles are distinguished by a typology wherein parents may be low or high in the dimensions of control and responsiveness. The dimension of responsiveness underlying parenting styles represents the “affective nature of the parent-child relationship” (Kuppens & Ceulemans, 2019), consisting of emotional availability, warmth, acceptance, and support (Cummings et al. 2020). Parents who experience gains in positive affect may be more likely to be responsive towards children (distinguished in authoritative and indulgent parenting).

Workers who are feeling emotions such as excitement, enthusiasm, and joy may find themselves naturally displaying these emotions and responding warmly when interacting with their children (Hatfield et al., 1993; Herrando & Constantinides, 2021). Positive affect may last through the day and predict behaviors hours later (e.g., Barsade & Gibson, 2007; Hur et al., 2020; Klotz et al., 2022). Thus, affect may have a lingering effect of supporting more responsive parenting.

Positive emotions should further function to support performance according to enrichment theory. Within enrichment theory, gains in positive affect represent one route through which performance in a separate role is theorized to be enhanced (Greenhaus and Powell, 2006). Positive emotions may allow parents to respond to children with greater warmth and support compared to if they themselves felt neutrally or even negatively. Indeed, parents’ positive emotions are theorized and understood to facilitate care and sensitivity in parenting (Dix, 1991). For instance, reduced positive affect has been identified as a potential mechanism explaining

why parents suffering from depression may display less effective parenting, characterized not necessarily by more harshness but instead by less engagement and responsiveness (Psychogiou & Parry, 2014).

Considering research evidence, in a meta-analysis of 63 studies, Rueger et al. (2011) found that both mothers' and fathers' positive affect was associated with more supportive, warm, and engaged parenting. Coplan et al. (2009) employed a vignette design and found that mothers high in responsiveness and control (authoritative parenting) tended to express fewer negative emotions in response to their child's hypothetical misbehavior compared to mothers who parented with low responsiveness but high control. This study finds support for a link between responsiveness and parents' emotion expression towards children. For more direct support, Dix et al. (2004) found that mothers who experienced greater joy and lower negative emotions oriented towards their child when interacting with them also tended to engage in more supportive parenting behaviors (defined as attending to and displaying affection and positive expressions). Martin et al. (2002) likewise found support that mothers' positive emotions may act as a buffer of experienced family distress, by allowing them to continue to engage in more sensitive parenting (in part defined by responsiveness). Thus, the experience of positive affect in a role and perception of its value for performance in an alternate role should function as a resource for working parents that specifically predisposes them to engage in more warm, positive, behaviors (high responsiveness, found in authoritative and indulgent parenting) directed towards children.

Hypotheses 5a-c: Positive affect will be positively associated with (a) authoritative and (b) indulgent parenting, and negatively associated with (c) uninvolved parenting behaviors.

Perspective-taking and Control and Responsiveness. The dimension of control in parenting includes behaviors meant to establish boundaries and expectations by managing or regulating a child's behavior (e.g., by enforcing punishments or rules, or providing rewards or supervision, Darling, 1993; Kuppens & Ceulemans, 2019). Some modern conceptualizations of this aspect of parenting have argued that it may more precisely be referred to as structure, rather than control, to emphasize the focus on guidance and distinguish from maladaptive parenting characterized by being intrusive and dominating (Grolnick & Pomerantz, 2009).

Carlson et al. (2006) identified work-family and family-work development as one of the chief dimensions through which experiences within one domain may transfer to support higher performance in the other. The inclination and ability to take one's child's perspective is a more cognitive skill entailing abstract thinking (Bartunek et al., 1983; Harvey et al., 1961). Parents who experience work to family development, in adopting their child's perspective, may be more likely to exhibit control, or develop productive structure, in parent-child interactions. Work-family theorists have postulated that values or other experiences in one domain may exert a corresponding influence on behavior in a separate role.

Perspective-taking may lead parents to enforce structure more clearly and consistently. Considering a child's perspective should result in improved understanding of their needs. Perspective-taking in communication exercises result in listeners achieving better comprehension (Krauss & Fussell, 1991). For children, their needs include not only affection but also clear and healthy boundaries to guide development. Adopting a child's perspective also indicates that parents are attuned towards their child (rather than being engrossed in unrelated activities). As such, present awareness of their child may come with awareness of their relationship and parenting role, making them more likely to exercise their authority in a reasonable manner. They

may feel more prepared and natural inhabiting the supervisory and developmental role as a parent, which includes acting with firm guidance and control (Joussemet & Grolnick, 2022). This may also entail a more informed sense of their child's lesser experience and maturity in contrast to them as the adult and authority. Accordingly, in adopting their child's viewpoint, parents may also be more likely to feel empowered and motivated to establish limits and expectations with their child.

Perspective-taking may also make parents more likely to respond warmly towards children. Increased consideration and awareness of children's needs includes awareness of needs for relatedness and care. Moreover, perspective-taking can increase the likelihood of empathizing with and feeling altruistically towards another (Batson et al., 1997; De Waal, 2008).

Research suggests that parents' executive functioning, including self-regulatory capability and cognitive flexibility, relates to less harsh parenting (Crandall et al., 2018; Deater-Deckard et al., 2012). Sher-Censor et al. (2015) found that the children of mothers who engaged in perspective-taking and set clear expectations tended to have better functioning (with fewer externalizing problems). Findings from a meta-analysis indicate that parents' capability in emotion regulation (including their use of cognitive reappraisal) relates to more positive (e.g., discipline skills, warmth, supportive emotion socialization) and less negative (e.g., laxness, intrusiveness, unsupportive emotion socialization) parenting behaviors (Zimmer-Gembeck et al., 2022). The increased ability to appreciate children's viewpoints could therefore allow for appropriate boundary-setting and establishing structure. In a review of studies on parents' consideration of children's experiences, Joussemet and Grolnick (2022) discussed that parents who engage in this consideration, including perspective-taking, are more likely to set limits rather than complying with a child's demands. Thus, work-family development should predict

greater expression of control in parenting, which is found in authoritarian and authoritative styles.

Hypotheses 6a-b: Perspective-taking will be positively associated with (a) authoritative parenting and (b) negatively associated with uninvolved parenting behaviors.

Vigor and Control. Compared to affect and perspective-taking, engagement is connected to motivation (Kahn, 1990), and defined as the investment of physical, cognitive, and affective energies into task performance (Rich et al., 2010). The dimension of vigor specifically represents energy (distinguished from identification with a task, Bakker et al., 2014). Vigor, as physical but also psychological energy, represents a resource that proposed to facilitate higher performance in a subsequent role according to enrichment theory (Greenhaus & Powell, 2006). The work-home resources model (ten Brummelhuis & Bakker, 2012) similarly dedicates a category of state-level and personal resources as energies. This category of resources includes attention, mood, and physical and cognitive energy, all of which are assumed to support higher performance in a separate role. Vigor effectively represents physical and cognitive energy available to devote to meet the role requirements of being a parent.

Vigor as an enrichment state may allow workers to feel empowered to establish control in parenting. Parents themselves readily acknowledge that parenting demands energy to perform, and energy to invest in parenting fluctuates and can be limited (Janisse et al., 2009). An ensuing state of vigor from having one's psychological needs met may grant working parents needed energy to enact this role effectively. For instance, parents' work vigor may translate to greater psychological availability for children, resulting in more positive interactions with them at home (Danner-Vlaardingbroek et al., 2013). Negative work experiences and states, including work

discrimination and job stress, have instead been negatively associated with working mothers' estimations of their energy for parenting (Bagheri Sheykhangafshe et al., 2022). Establishing and enforcing rules in particular may be taxing. Exhibiting control in parenting may require commitment, as children may be more likely to resist rules compared to affection. Parents who have energy available may therefore be more successful in setting clear and firm expectations.

Hypotheses 7a-c: State vigor will be positively associated with (a) authoritative and (b) authoritarian parenting, but will be negatively associated with (c) uninvolved parenting behaviors.

Further, I propose mediation hypotheses linking basic psychological need fulfillment through work and home roles to the expression of different parenting styles.

Hypotheses 8a-f: Positive affect will mediate the relationships between state basic need satisfaction through work and (a) authoritative, (b) indulgent, and (c) uninvolved parenting, as well as state basic need satisfaction through home and (d) authoritative, (e) indulgent, and (f) uninvolved parenting.

Hypotheses 9a-d: State perspective-taking will mediate the relationships between state basic need satisfaction through work and (a) authoritative and (b) uninvolved parenting, as well as state basic need satisfaction through home and (c) authoritative and (d) uninvolved parenting.

Hypotheses 10a-f: Vigor will mediate the relationships between state basic state need satisfaction through work and (a) authoritative, (b) authoritarian, and (c) uninvolved parenting behaviors, as well as state basic state need satisfaction through home and (d) authoritative, (e) authoritarian, and (f) uninvolved parenting.

Lastly, I propose moderated-mediation hypotheses connecting the full model. I hypothesize that Work and Family Centrality will moderate these indirect relationships.

Hypotheses 11a-f: Work Centrality will moderate the mediated effect of state positive affect on the indirect relationships between need satisfaction through work and (a) authoritative parenting, (b) indulgent parenting, and (c) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (d) authoritative parenting, (e) indulgent parenting, and (f) uninvolved parenting.

Hypotheses 12a-d: Work Centrality will moderate the mediated effect of state perspective-taking in the indirect relationships between state need satisfaction through work and (a) authoritative parenting with (b) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (c) authoritative and (d) uninvolved parenting.

Hypotheses 13a-f: Work Centrality will moderate the mediated effect of vigor in the indirect relationships between state need satisfaction through work and (a) authoritative parenting, (b) authoritarian, and (c) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (d) authoritative parenting, (e) authoritarian, and (f) uninvolved parenting.

Hypotheses 14a-f: Family Centrality will moderate the mediated effect of state positive affect in the indirect relationships between need satisfaction through work and (a) authoritative parenting, (b) indulgent parenting, and (c) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (d) authoritative parenting, (e) indulgent parenting, and (f) uninvolved parenting.

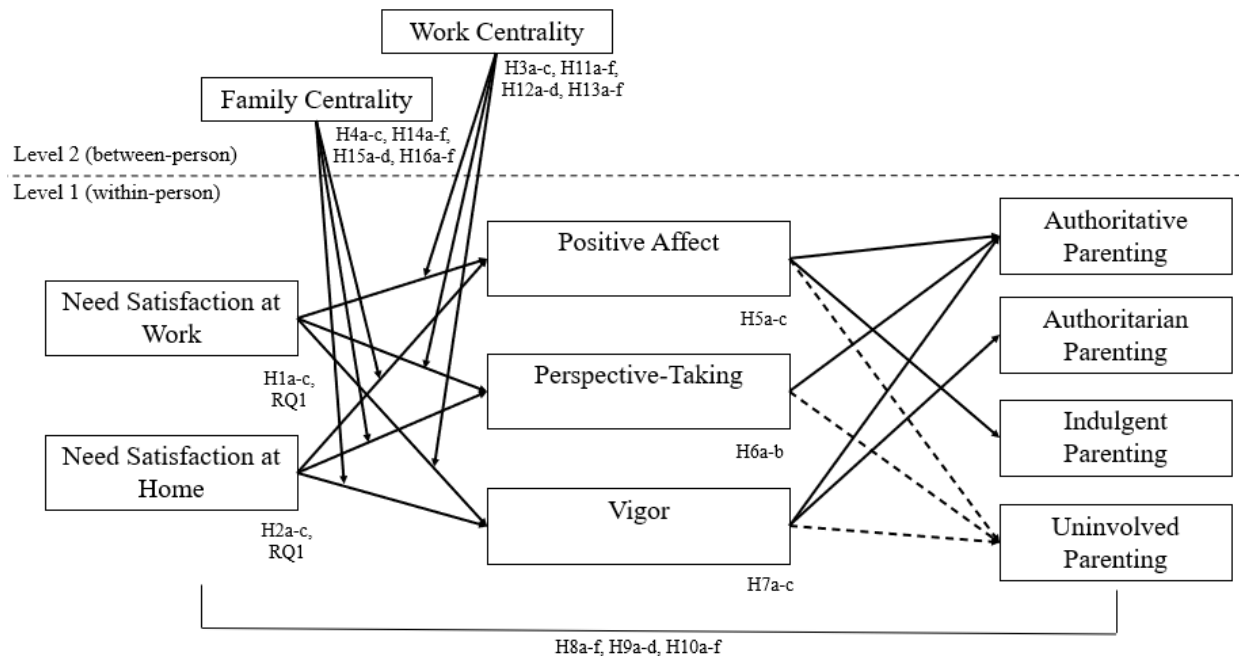
Hypotheses 15a-d: Family Centrality will moderate the mediated effect of state perspective-taking in the indirect relationships between state need satisfaction through work and (a) authoritative parenting with (b) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (c) authoritative and (d) uninvolved parenting.

Hypotheses 16a-f: Family Centrality will moderate the mediated effect of vigor in the indirect relationships between state need satisfaction through work and (a) authoritative parenting, (b) authoritarian, and (c) uninvolved parenting, as well as the indirect relationships between need satisfaction through home and (d) authoritative parenting, (e) authoritarian, and (f) uninvolved parenting.

The proposed study model is presented in Figure 1.

Figure 1

Study Model with Hypothesized Relationships



METHOD

Pilot Study

Given that parenting styles have almost overwhelmingly been researched at the stable, between-person level, I conducted a pilot study to first confirm that there is an adequate (nontrivial) degree of variance in parenting at the daily level to merit study. Participants were recruited via Prolific and were deemed eligible if they were fluent in English, resided in North America, were currently working at least 20 hours per week, and were the parent to at least one child aged 6-13 years-old who was currently living with them and who they typically interacted with every day.

Participants. The pilot study sample consisted of fourteen participants. Pilot study participants were 41.75 years-old on average ($SD = 7.73$). Eight were female (four were male, two did not report demographic information), and six were White.

Procedure. Participants were asked to complete early evening (e.g., after ending work and returning home) and next-morning surveys over the course of a five-day work week. All surveys were hosted on Qualtrics.com. Work and home need satisfaction, enrichment state mediator variables (positive affect, child's perspective-taking, and vigor) were measured in evening surveys. Reports of parenting behaviors for the previous evening were measured in morning surveys. Participants were compensated \$1.50, through Prolific, for each survey that they completed.

Measures. Work need satisfaction was assessed with nine items developed by Van den Broeck et al. (2010), and home need satisfaction was measured with a 9-item scale developed by La Guardia et al. (2000). To reduce the burden placed on participants, I took the three highest-loading items for each individual need for work need satisfaction from Van den Broeck et al.

(2010)'s original 18-item scale. Need satisfaction items were assessed on a 5-point rating scale (1=Strong disagree, 5=Strongly agree). Items were adapted to reference need satisfaction on that day.

Positive affect was assessed with the 10-item PANAS (Watson et al., 1988), for which participants were presented with 10 positive emotions and were instructed to rate the extent to which they felt each on a 1 ((Very slightly or not at all) to 5 (Extremely) scale. Child's perspective-taking was assessed with the Perspective Taking Scale (Stets, 1993), adapted to reference parents' adoption of their child's perspective (Crouter et al., 2001). Participants rated their agreement with how they felt that evening on a 1 (Strongly disagree) to 5 (Strongly agree) scale. Vigor was measured with the 5-item Work and Well-Being Survey (UWES) developed by Schaufeli et al. (2006). Items were rated on a 6-point scale (1=Not at all, 6=Extremely) and were adapted to refer to the current evening and family role.

I collected morning reports of previous-evening parenting for eight different types of parenting behaviors. I used a measure developed by Saunders et al. (2012) for authoritative, indulgent, authoritarian, and uninvolved parenting. Each parenting style was measured with three items, using items with the highest loading for each style out of the original 19-item scale to reduce cognitive load placed on participants. I also collected reports of responsive and autonomy-supportive parenting, behavioral monitoring, and maturity demands, from measures presented by Sleddins et al. (2014). Responsiveness and autonomy-supportiveness additionally represent aspects of warmth/nurturance in parenting, whereas monitoring one's child and demanding maturity represent components of control/structure.

All parenting behavior items were adapted to reference the previous evening. To minimize the load placed on participants and get a sense of variability in parenting behaviors,

participants responded to parenting behavior items on a “Yes” or “No” scale to report whether or not they engaged in the particular parenting behavior the previous evening. I examined participant responses for parenting behavior variables at the item-level for greater detail on variability.

Pilot Study Results. For evening survey need satisfaction and enrichment state mediator variables I received 36 out of a possible 70 responses, for a response rate of 51.43%. Table 1 presents the means, standard deviations, correlations, and the intraclass correlation coefficients (ICC) for work and home need satisfaction, positive affect, perspective-taking, and vigor. The ICC(1) gives an indication of the variance that may be attributable to the between-person level (Raudenbush & Bryk, 2002). In other words, the ICC(1) represents similarity in reports for a construct given by the same person over time. These results suggest that there is a nontrivial degree of variance at the within-person level for need satisfaction and proposed enrichment state mediator variables, warranting a multilevel approach.

To note, ICC(1) values for all variables, and need satisfaction variables in particular, were fairly high, qualifying as large between-person effects for daily states (LeBreton & Senter, 2008). Some recommendations are to take a multilevel modeling approach in the case that data are organized in a multilevel structure (Nezlek, 2008), as befitting measurements nested within people, including in the case of high ICC values (e.g., .93, Roberts, 2004). These recommendations are more conservative in directing scholars to not aggregate multilevel data, often in the case that Level 2 effects are of primary interest. In the present case, effects at Level 1 are of primary interest, and the lower degree of variance in need satisfaction variables at this level poses greater limits to meaningful predictions. This said, there is a more established literature on intraindividual variation in basic need satisfaction, as compared to parenting

variables, suggesting that a larger proportion of variance in need satisfaction tend to be attributed to the within-person level compared to results of the pilot study with a smaller number of participants and days (Coxen et al., 2021).

Table 1

Pilot Study Descriptives and ICCs for Need Satisfaction and Enrichment State Variables

	ICC	<i>M</i>	<i>SD</i>
1. Work NS	.89	3.95	.87
2. Home NS	.87	4.32	.74
3. Positive Affect	.66	3.59	.89
4. Perspective-Taking	.66	3.94	.73
5. Vigor	.52	4.24	1.34

Note. Correlations below the diagonal are calculated at the between-person level, correlations above the diagonal are calculated at the within-person level. Correlations are rounded to the second decimal place. NS = need satisfaction. * $p < .05$. $N_{\text{Level1}} = 22$ (Positive Affect)-34, $N_{\text{Level2}} = 14$. ICC = Percentage of variance attributable to differences between people (equivalent to between-person variance / [between-person variance + within-person variance]).

For morning surveys with parenting behaviors, I received 62/70 possible responses, for a response rate of 90.00%. Participants were sent the link to each evening survey via a message in Prolific, whereas they received notifications through Prolific for each new morning survey, perhaps explaining the improved response rate for morning compared to evening surveys. Parenting behaviors were evaluated at the item-level for a more fine-grained consideration of variability in particular behaviors and their constituent items. At the item-level, for the eight parenting behavior measures, participants' reports of engaging in a given parenting behavior did tend to vary over the days of the pilot study. For each individual item, for each parenting behavior, between 2-8 (15.38-61.54%) participants displayed variability in their reports of engaging and not engaging in a given parenting interaction across the five days of the pilot study.

Power Analysis

The recommended sample size is 10 observations per subject at the within-person level (level 1) and 100 subjects at the between-person level (level 2, thus resulting in a sample size of 1,000 at Level 1), given interest in random effects in multilevel designs (Hox et al., 1998). This sample size exceeds the recommended minimum Level 1 and Level 2 sample sizes of 835 and 83, respectively, based on a review of ESM studies published in industrial-organizational and management journals (Gabriel et al., 2019). Precise information (estimates of the direct cross-level effect, residual variance at level one) is required for a two-level power analysis to understand the precise sample size required to detect cross-level interaction effects (Mathieu et al., 2012).

However, Monte Carlo simulation studies can be used for a power analysis by outlining a population model in which values for all parameters are specified (based on those provided in the literature), entering the sample sizes at Levels 1 and 2, simulating many samples and testing the model within each (Muthén & Muthén, 2017). Power is then represented by the proportion of these sample models in which the effect size estimate of interest (as specified within the population model and is present) is significant.

Given multilevel sample size recommendations (Hox et al., 1998; Gabriel et al., 2019; Scherbaum & Pesner, 2019), a sensitivity analysis can be conducted to examine the adequacy of a Level 1 sample size of 1,000 and Level 2 sample size of 100 to detect the estimated relationship between affect and parenting behavior. Based on the availability of parameter estimates within the literature, I conducted a series of Monte Carlo simulations to estimate power to detect the relationship between affect and parenting behaviors, given different samples sizes at Level 1 and Level 2 in a random intercept and random slope model. For parameter estimates, I

used Van der Kaap-Deeder et al.'s (2019) results for the same-day relationship between mother's self-reported stress and psychological control (which is $\beta = .33$) in their parenting.

Monte Carlo simulations indicate that a sample size of 1,000 and 100 at Level 1 and Level 2, respectively, has 98.80% power to detect a Level 1 effect of .33. This suggests that a targeted Level 1 and Level 2 sample size of approximately 100 focal study participants sampled over 10 days will be adequate to detect one the hypothesized relationship between within-person affect and parenting behaviors expressed.

Main Study Participants

Participants were recruited through the research site Prolific (Palan & Schitter, 2018). Eligibility requirements for focal study participants were that they resided in North America, currently worked 20 or more hours per week, and were the parent of at least one child between the ages of 6-13 who was currently living with them and who they saw most evenings. This age range for children was selected based on research findings that parenting behaviors for school-aged children involves less basic childcare and more higher-level activities involving teaching and management (Meier et al., 2018).

Three-hundred working parents were recruited for the study based on Prolific's screening qualifications that they met the eligibility criteria. To confirm current eligibility, participants were directed to a brief survey that shared participation details and included questions to confirm their working status and that they were the parent of at least one child between the ages of 6-13 who lived with them and who they interacted with most evenings. Forty-nine (16.33%) participants did not provide responses to these eligibility questions, 93 (31.00%) provided responses that did not meet eligibility requirements, and another 10 (3.33%) indicated that they were not interested in participating. A total of 148 (49.33%) were ultimately deemed eligible and

gave their consent to participate in the study. These 148 participants were enrolled in the study and received notifications to complete surveys through Prolific.

In total, 96 focal study participants completed a minimum of two consecutive evening and one morning survey that could be used for the main study analyses. Thus, the final main study sample was 96 English-speaking, working parents with at least one child between the ages of 6 and 13 residing in North America. I received approximately 545 out of a possible 1,240 daily observations from focal study participants, for a response rate of 43.95%. Eleven participants (11.46%) provided data for all 10 days of the study, and 10 participants provided data for two days of the study (10.42%). The plurality ($N = 17$, 17.71%) of participants provided responses for eight study days, with the fewest ($N = 4$, 4.17%) providing responses for six days.

The sample was majority male ($N = 52$, 54.20%). The majority identified as heterosexual ($N = 84$, 87.50%), with five identifying as bisexual and another three as homosexual. Most were married ($N = 81$, 84.40%), with nine (9.40%) having never been married. The sample was on average 40.41 years old ($SD = 6.49$). All participants had earned at least a high school degree or GED, with the majority ($N = 48$, 50.00%) holding a bachelor's degree as their highest level of education earned. The sample was also majority White ($N = 69$, 71.90%), with seven (7.30%) identifying as African American/Black, and eight (8.30%) as Asian. Thirteen (13.50%) participants identified as Spanish, Hispanic, or Latino/a/LatinX.

Participants were most commonly parent to one ($N = 36$, 37.50%) or two ($N = 38$, 39.60%) children, with 14 (14.60%) parent to three children and 5 (5.20%) parent to four children. The average age of first-born child was 12.66 years-old ($SD = 4.90$, $Min. = 1.00$, $Max. = 29.00$), and the average age of the sample's second-born child was 11.04 years old ($SD = 4.28$, $Min. = 5.00$, $Max. = 27.00$). Third-born children were 10.63 years old on average ($SD = 5.04$,

Min. = 5.00, *Max.* = 24.00), and fourth-born children were on average 8.00 years old (*SD* = 3.74, *Min.* = 3.00, *Max.* = 13.00).

Concerning employment, participants worked across a range of industries, including finance/insurance (*N* = 11, 11.50%), professional, scientific or technical services (*N* = 11, 11.50%), information (*N* = 10, 10.40%), manufacturing (*N* = 10, 10.40%), and health care or social assistance (*N* = 9, 9.40%). The sample worked an average of 41.02 hours per week (*SD* = 8.08, *Min.* = 20.00, *Max.* = 72.00). On average, participants had been working in their current role for 8.01 years (*SD* = 6.12, *Min.* = < 1.00, *Max.* = 32.00).

Procedure

The informed consent forms for focal study participants as well as their partners to participate in this study may be found in Appendix A. Participants recruited through Prolific first completed a brief survey to verify their eligibility and provide informed consent to take part in the study. For the study, they completed a Time 1 baseline survey to capture work- and family-centrality and demographic information. They received \$2.00 for completing the baseline survey.

Over the next 10 days, they received notifications from Prolific to complete an evening measure of need satisfaction through the work and home role and enrichment states (positive affect, perspective-taking, and vigor). On the following morning they received an alert to report on their parenting style behaviors from the previous evening. Participants were instructed to rate their interactions with the child with whom they interacted with most that evening. All surveys were hosted on the survey site Qualtrics.com. Participants were compensated with \$1.50, managed by Prolific, for each completed evening and morning survey.

Time 1 Trait-level Measures

Work and Family Centrality. Work and family centrality were assessed with the scales adapted by Matthews et al. (2012) from Amatea et al. (1986). A sample work centrality item reads “It is important to me to feel successful in my work / career.” Work centrality is assessed with four items and family centrality with five items, all of which are rated on 7-point scales (1 = Strongly disagree, 7 = Strongly agree). Centrality scales may be found in Appendix B. α for work centrality = .85, α for family centrality = .89.

Attitudes about Parenting. I collected additional stable attitudes related to parenting and individual differences for potential use as control variables. Specifically, I collected these constructs for potential use in estimating the “controlled” relationship between daily states of interest and parenting style expression, accounting for the influence of individual differences that are meaningful for parenting behaviors (Carlson & Wu, 2012). That is, holding the influence of trait-level factors that inform parenting constant can in theory offer a more clear estimate of the relationships between the hypothesized daily states and enacted parenting. However, because statistical control with the goal of estimating such “controlled” relationships by nature casts ambiguity in interpreting relationships, I analyzed and reported results with and without the inclusion of all potential control variables collected in line with recommendations (Carlson & Wu, 2012).

Identification with Parenting. In terms of stable trait-level controls, I collected attitudes about parenting for use as a potential control variable, as identification and attitudes towards appropriate parenting inform parenting behaviors expressed. To assess identification with parenting specifically, I used items shared by Piotrowski (2018) based on the Utrecht-Management of Identity Commitments Scale (U-MICS, Meeus, 2001), which assesses identity

commitment, exploration, and reconsideration of commitment. This scale consists of 6 items rated on a 1 (Completely untrue) to 5 (Completely true) scale to measure identification with parenting. A sample item is “I often talk with other people about my child / children.” α for identification with parenting = .80.

Parenting Attitudes. Major parenting attitudes were captured with the Intensive Parenting Attitudes Questionnaire (IPAQ, Liss et al., 2013a). The IPAQ consists of five dimensions consisting of agreement with particular attitudes related to parenting, all rated on a 6-point scale (1=Strongly Disagree, 6=Strongly Agree). Gender essentialism in parenting ($\alpha = .91$) is measured with 8 items. A sample item is “Although fathers may mean well, they generally are not as good at parenting as mothers.” Importance of stimulating children ($\alpha = .82$) is measured with 4 items (sample item: “It is important for children to be involved in classes, lessons, and activities that engage and stimulate them.”). The extent to which parenting should be child-centered ($\alpha = .80$) is assessed with 3 items (sample item: “Children’s needs should come before their parents.”). Fulfillment with the parenting role ($\alpha = .82$) was measured with 4 items (sample item: “Being a parent brings a person the greatest joy he or she can possibly experience.”). Lastly, the attitudes about the parenting role as challenging ($\alpha = .75$) were measured with 6 items (sample item: “Parenting is exhausting.”). The Parenting Identity and IPAQ dimensions and items are presented in Appendix C.

Individual Difference Variables. Moreover, based on findings that trait empathy (assessed in a previous study with the 16-item Toronto Empathy Questionnaire, TEQ, with separate dimensions of perspective-taking and empathic concern; Spreng et al. [2009](#)) and dimensions of negative assertion and conflict management in interpersonal competence (both 8 items each, Interpersonal Competence Questionnaire, ICQ; Buhrmester et al. 1988) relate to

generally higher quality parenting over and above demographic differences (Egeli & Rinaldi, 2016), I also administered these scales. The TEQ perspective-taking and empathic concern dimensions of empathy are each measured with 8 items on a 1 (Strongly disagree) to 5 (Strongly agree) rating scale. A sample perspective-taking item is “I can tell when others are sad even when they do not say anything.”, and a sample empathic concern item is “When someone else is feeling excited, I tend to get excited too.” α for the TEQ dimension of empathic concern = .89, α for TEQ dimension of perspective-taking = .87.

The ICQ Brief Form negative assertion and conflict management dimensions are measured with three items each, using a 1 (“I’m poor at this; I’d feel so uncomfortable and unable to handle this situation, I’d avoid it if possible”) to 5 (“I’m EXTREMELY good at this; I’d feel very comfortable and could handle this situation very well”) scale. A sample negative assertion item reads “Confronting your close companion when he or she has broken a promise.”, and a sample conflict management item is “Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.” α for ICQ negative assertion dimension = .88, α for ICQ conflict management dimension = .69. Individual differences related to parenting quality are located in Appendix D.

Participants were asked to provide demographic information in the baseline survey. Parent age, race/ethnicity, and sex were collected as control variables for parenting behaviors based on evidence that parenting styles may differ based on these characteristics (Dornbusch et al., 1987; Egeli & Rinaldi, 2016; Eun et al., 2018; Pong et al., 2005). Demographic questions are listed in Appendix E.

Experience Sampling Measures

Early Evening

Need satisfaction through the work and home roles. Need satisfaction at work and at home were captured with items developed by Van den Broeck et al. (2010) and La Guardia et al. (2000), respectively, adapted to refer to the past tense given the experience sampling design. To assess need satisfaction at work, I used the three highest-loading items each for competence, autonomy, and relatedness reported by Van den Broeck et al. (2010) from the original 18-item scale in order to reduce the demand placed on participants. Work need satisfaction was rated on a 7-point scale (1=Strongly disagree, 7=Strongly agree). A sample item measuring competence need satisfaction at work is “I was good at the things I did in my job.” $\alpha_{\text{Within-Person}} = .65$, $\alpha_{\text{Between-Person}} = .90$.

Need satisfaction through the home role was assessed with 9 items. A sample item is “I felt like a competent person at home.” Participants were instructed to rate their agreement regarding how they felt at home in the present day. Items were all rated on five-point scales, (1=Strongly disagree, 5=Strongly agree), in keeping with the original scale. $\alpha_{\text{Within-Person}} = .73$, $\alpha_{\text{Between-Person}} = .98$. Both need satisfaction scales may be found in Appendix F.

Enrichment States. Positive affect was assessed with the PANAS scale (Watson et al., 1988), consisting of 10 positive emotions (e.g., “interested”). Participants were instructed to rate how they feel the present evening, on a scale from 1 (Very slightly or not at all) to 5 (Extremely). $\alpha_{\text{Within-Person}} = .88$, $\alpha_{\text{Between-Person}} = .96$.

Child’s perspective-taking was measured with the five-item Perspective Taking Scale developed by Stets (1993) and adapted to the parent-child relationship by Crouter et al. (2001). Participants were instructed to rate their agreement with the statements about their relationship

and interactions with their child the present evening on a 1 (Strongly disagree) to 5 (Strongly agree) scale. An example item is the reverse-scored “I have difficulty seeing my child’s viewpoint”, which is adapted to reference the present evening from the original item of “I have difficulty seeing my child’s viewpoint in an argument.” $\alpha_{\text{Within-Person}} = .60$, $\alpha_{\text{Between-Person}} = .63$.

Lastly, vigor at home was measured with the Work and Well-Being Survey (UWES) (Schaufeli et al., 2006), adapted to refer to the present evening and family (rather than work) role. The scale consists of five items rated on a six-point scale (1=Not at all, 6=Extremely). An example item reads “This evening, I feel that I can continue in my family obligations for very long periods at a time.” Items were rated on a 5-point (1=Strongly disagree, 5=Strongly agree) scale. $\alpha_{\text{Within-Person}} = .80$, $\alpha_{\text{Between-Person}} = .94$. Items for positive affect, perspective-taking, and vigor as hypothesized enrichment states are located in Appendix G.

Following Morning

Parenting style expression. Parenting behaviors for the four traditional parenting styles were assessed in the evening using a measure of behaviors developed by Saunders et al. (2012), adapted to refer to that evening. In order to reduce the demand placed upon participants, each parenting style was captured using the three highest-loading items reported by Saunders et al. (2012) out of the original 19 items. A sample item for indulgent parenting is “I listened to reasons why my child might not want to do something that I ask him/her to do.” For authoritative $\alpha_{\text{Within-Person}} = .70$, $\alpha_{\text{Between-Person}} = .97$, for indulgent $\alpha_{\text{Within-Person}} = .50$, $\alpha_{\text{Between-Person}} = .90$, for authoritarian $\alpha_{\text{Within-Person}} = .76$, $\alpha_{\text{Between-Person}} = .84$, and for uninvolved parenting $\alpha_{\text{Within-Person}} = .79$, $\alpha_{\text{Between-Person}} = .95$. Items were all rated on a 5-point scale (1=Strongly disagree, 5=Strongly agree). Parenting style measures are listed in Appendix H.

As these parenting style measures were developed for use at the between-person level and have not been applied to study parenting at the daily level, I also collected additional parenting behaviors that are similarly meant to assess responsiveness and control in parenting, from the Comprehensive General Parenting Questionnaire (CGPQ) developed by Sleddens et al. (2014). All items were adapted to reference the prior evening. As a dimension of nurturance, responsiveness is meant to capture warmth and engagement in parenting. Participants rated 5 items for this subscale, with a sample item being “My child and I had warm affectionate moments together.” As another dimension of nurturance, autonomy-supportive parenting, encourages children to express healthy autonomy, and was also assessed with 5 items. A sample item is “I encouraged my child to be true to himself/herself.” For responsive parenting $\alpha_{\text{Within-Person}} = .77$, $\alpha_{\text{Between-Person}} = .92$, and for autonomy-supportive parenting $\alpha_{\text{Within-Person}} = .73$, $\alpha_{\text{Between-Person}} = .93$.

Representing behavioral control in parenting, monitoring measures the extent to which parents supervise children with 4 items (excluding one item alluding to awareness of children’s friends, which is not relevant for the daily level). A sample item for parental monitoring is “I watched my child to make sure he/she behaved appropriately.” Lastly, as another indicator of behavior control in parenting, maturity demands represents introducing and maintaining structure for children. Maturity demands was assessed with 5 items, and a sample item reads “I expected my child to follow our family rules.” Behavioral monitoring $\alpha_{\text{Within-Person}} = .75$, $\alpha_{\text{Between-Person}} = .90$, and maturity demands $\alpha_{\text{Within-Person}} = .87$, $\alpha_{\text{Between-Person}} = .97$. All statements for the four alternate parenting behaviors were rated on 5-point scales (1 = Strongly disagree, 5 = Strongly agree). These four parenting behavior dimensions from the CGPQ are presented together with Saunders et al.’s (2012) measures of the traditional parenting styles, in Appendix H.

Control variables. I included measures of daily states as possible controls for the goal of more clearly understanding the relationship between hypothesized enrichment states and parenting style expression (with these states that are likely to inform parenting behaviors accounted for, Carlson & Wu, 2012). As discussed, given ambiguity in interpreting the nature of relationships that arises when attempting to estimate “controlled” relationships in this manner, I conducted and reported analyses with and without the inclusion of control variables (Carlson & Wu, 2012).

In the early evening surveys, following recommendations in within-person research, I collected state negative affect as a potential control variable (Gabriel et al., 2019). Negative affect was measured with 5 items from the short-form PANAS (Watson et al., 1988, validation information provided by MacKinnon et al., 1999). Participants rated the extent to which they were currently feeling five negative emotions (e.g., upset) that evening on a 5-point scale (1=Strongly Disagree, 5=Strongly Agree). For negative affect $\alpha_{\text{Within-Person}} = .81$, $\alpha_{\text{Between-Person}} = .97$.

Second, also in the early evening surveys, I collected daily ratings of six common job stressors (work recognition, workload, work and family demands, skill use, task significance, and coworker relations). Stressors were assessed with single items validated by Gilbert and Kelloway (2014). Items were rated on a 5-point scale (1=Strongly Disagree, 5=Strongly Agree) and were adapted to refer to that present day. A sample item, for work recognition, reads “Today at work, I felt I was recognized for the work I do.”. These variables were collected as controls to minimize extraneous noise by partialling out variance in outcomes associated with a negative mood (Gabriel et al., 2019).

In the morning surveys, I likewise assessed perceptions of partner support and parenting challenges with 5 and 4 items, respectively, adapted from Paat (2015) to refer to the previous evening, as well as self-reported time spent that day with the child. Items for perceptions of partner support in parenting were rated on a 4-point scale (1=Not at all true, 4=Extremely true). A sample item is “Last evening, your partner supported you in the way you want to raise your child.” For negative affect $\alpha_{\text{Within-Person}} = .66$, $\alpha_{\text{Between-Person}} = .99$. Parenting challenge items were rated on a 4-point scale (1=Strongly disagree, 4=Strongly agree). A sample item is “Last evening, I felt trapped by my responsibilities as a parent.” $\alpha_{\text{Within-Person}} = .80$, $\alpha_{\text{Between-Person}} = .99$. Within-person negative affect and stressor control variables are presented in Appendix I.

Analyses

I tested hypotheses in a multilevel path model. All multilevel analyses were conducted using Mplus version 8.0 (Muthén & Muthén, 2017). Following data cleaning and exploration, I estimated a baseline (empty) model to decompose the variance of all within-person variables (need satisfaction, enrichment, and parenting style expression). The ICC F tests indicate whether the proportion of variance at the within-person level is significant, warranting multilevel modeling. ICC(1) results indicate that there is a meaningful proportion of variance at the within-person level for all daily constructs, with ICC(1)s ranging from .338-.754. Approximately half of the variance in parenting constructs is attributable to fluctuations within people over time. Perceptions of partner support in parenting exhibited the greatest within-person stability, with the majority of variance (75.40%) attributable to differences between people. Table 2 presents results of the variance decomposition for primary constructs and all control variables.

Table 2

Variance in Study Variables Attributed to the Within- and Between-Person Levels

Variable	% Variance Between-Person	% Variance Within- Person
Need Satisfaction		
Need Satisfaction through Work Role	63.80%	36.20%
Need Satisfaction through Home Role	73.30%	25.70%
Enrichment States		
Positive Affect	72.10%	27.90%
Perspective-Taking	59.50%	40.50%
Vigor	68.10%	31.90%
Traditional Parenting Styles		
Authoritative Parenting	49.80%	50.20%
Indulgent Parenting	47.20%	52.80%
Uninvolved Parenting	52.00%	48.00%
Authoritarian Parenting	37.80%	62.20%
Alternative Parenting Behaviors		
Responsiveness	50.70%	49.30%
Autonomy-supportive	53.00%	47.00%
Monitoring	52.20%	47.80%
Maturity Demands	51.20%	48.80%
Control Variables		
Negative Affect	66.50%	33.50%
Stressor: Work Recognition	55.80%	44.20%
Stressor: Workload	43.20%	56.80%
Stressor: Work and Family Demands	38.10%	61.90%
Stressor: Skill Use	44.60%	55.40%
Stressor: Task Significance	52.80%	47.20%
Stressor: Coworker Relations	48.00%	52.00%
Partner Support in Parenting	75.40%	24.60%
Parenting Challenges	33.80%	66.20%
Time Spent with Child	61.60%	38.40%

Note. $N_{\text{Within-Person}} = 451 - 543$, $N_{\text{Between-Person}} = 96 - 98$.

I conducted multilevel confirmatory factor analyses (CFA) to obtain multilevel reliability estimates (Geldhof et al., 2014). I also conducted maximum multilevel CFAs, with observed scale items correlated at the between-person level (Wu et al., 2017) to examine factor structure for evidence of construct validity. Given the number of items, for the purpose of model identification, I conducted separate analyses for evening scales and morning parenting behavior scales and created parcels for daily scales with greater than three items.

I estimated a five-factor model at the within-level with focal constructs of work and home need satisfaction and enrichment states of positive affect, perspective-taking, and vigor. I created parcels for work and home need satisfaction based on averaging the three items for each scale meant to assess each basic psychological need, and for enrichment state constructs by averaging the 2-4 items that were more strongly correlated together (Hall et al., 1999), to create 2 parcels for the five-item perspective-taking and vigor scales, and 3 parcels for the 10-item positive affect scale. Parcels were allowed to load onto their respective latent factor. Multilevel CFA suggest that the data were an appropriate fit to the measurement model, $\chi^2 = 510.094$, $df = 170$, $p = .00$; CFI = .862, TLI = .829, RMSEA = .061, SRMR-within = .049, and SRMR-between = .424. This designation is based on results from simulation studies finding that the CFI and TLI are poor indicators of fit in the context of multilevel CFAs, particularly at higher ICC values (e.g., ICC of .20 or .30, Ene, 2020). Instead, the RMSEA and SRMR-within consistently perform best as indices for assessing fit for multilevel CFAs (Ene, 2020). Moreover, this five-factor model had better fit compared to a four-factor model in which work and home need satisfaction parcels loaded onto a single need satisfaction factor, $\chi^2 = 598.398$, $df = 174$, $p = .00$; CFI = .827, TLI = .791, RMSEA = .067, SRMR-within = .064, and SRMR-between = .424. The theorized five-factor model also had improved fit compared to a single-factor model with all construct parcels loading on indiscriminately, $\chi^2 = 1010.771$, $df = 180$, $p = .00$; CFI = .662, TLI = .605, RMSEA = .092, SRMR-within = .098, SRMR-between = .424.

I estimated a four-factor maximum multilevel CFA (Wu et al., 2017) for the traditional parenting style constructs assessed in the morning. This model showed good fit, $\chi^2 = 225.488$, $df = 102$, $p = .00$; CFI = .901, TLI = .871, RMSEA = .047, SRMR-within = .044, SRMR-between = .271. Fit was better for the four-factor traditional parenting styles model compared to a

unidimensional model with all parenting style items loading on to a single factor, $\chi^2 = 1375.345$, $df = 132$, $p = .00$; CFI = .521, TLI = .414, RMSEA = .101, SRMR-within = .156, SRMR-between = .273.

I also conducted a CFA for evidence of construct validity for the four alternate parenting behavior constructs of responsive parenting, autonomy-supportive parenting, monitoring of children, and maturity demands placed on children. Given the larger number of items used to assess the alternative parenting variables, I created two parcels for each parenting behavior construct by averaging items with the strongest correlations (Hall et al., 1999) to reduce the number of parameters for model identification. Parcels created for each parenting behavior loaded onto their respective construct at the within-level. The four-factor model for alternative parenting behaviors demonstrated good fit, based on RMSEA and SRMR-within values within the multilevel CFA context (Ene, 2020), $\chi^2 = 319.388$, $df = 122$, $p = .00$; CFI = .897, TLI = .868, RMSEA = .055, SRMR-within = .056, and SRMR-between = .387. This model also had better fit compared to a single-factor model in which all alternative parenting behavior items loaded onto a one factor, $\chi^2 = 1271.406$, $df = 135$, $p = .00$, CFI = .406, TLI = .313, RMSEA = .125, SRMR-within = .195, and SRMR-between = .387.

To test hypothesized relationships, I estimated random-slope mediation models and multilevel moderated-mediation models (Muthén & Muthén, 2017). Dummy-coded weekday/weekend was included as a covariate for mediators and parenting behavior outcomes in all analyses. Exogenous Level 1 variables were person-mean centered and Level 2 centrality variables and control variables were grand-mean centered (Enders & Tofighi, 2007). I regressed enrichment states onto needs satisfaction variables (the “a” paths), parenting style behaviors onto enrichment states (“b” paths), and parenting style behaviors onto needs satisfaction variables (the

“c” paths) and estimated the random slopes for these relationships at the within-person level (Preacher et al., 2010). Any relationships between control variables and parenting outcomes were all estimated as fixed effects for reduced model complexity.

I obtained estimates of the indirect effects at the within-person level using Monte Carlo estimation with bootstrapped 95% confidence intervals based on the observed indirect effects (Preacher & Selig, 2010; Preacher & Selig, 2012). To test the first-stage cross-level moderation effects of work and family centrality, I regressed the random slope of the focal need satisfaction-enrichment relationship onto the predicted centrality variable at the between-person level. To test for moderated mediation effects, I calculated indices of moderated mediation. The index of moderated mediation indicates the extent to which the indirect effect varies based on the moderator (Hayes, 2015), and specifically, whether the extent to which the indirect effect varies as a function of the moderator is significantly different than zero based on results of bootstrapped confidence intervals. The index of moderated mediation as a direct test for the presence of condition indirect effects has been extended to the context of multilevel data (Rockwood, 2017). Significant indices of moderated mediation can then be probed further for interpretation by evaluating the magnitude and direction of the indirect effect at different levels of the moderator (Preacher et al., 2007).

RESULTS

Descriptive Results

Table 3 presents means, standard deviations, and correlations between focal study variables, including both the four traditional parenting style constructs and the four alternative parenting behavior constructs. For within-person variables, correlations were calculated at both the within- and between-person level, with the variance of Level-1 variables partitioned into latent within and between components (Preacher et al., 2010), with between-level components correlating with Level 2 variables. As can be seen, daily work and home need satisfaction were not significantly correlated ($r = .12, p = .07$), however, at the between-person level, people who on average tended to experience greater satisfaction of their basic needs at work were more likely to have their needs satisfied in their home role as well ($r = .41, p = .001$). Further, within-person, work need satisfaction was only significantly correlated with vigor ($r = .11, p = .046$), whereas home need satisfaction was significantly correlated with positive affect ($r = .35, p < .001$) and child's perspective-taking ($r = .16, p = .001$).

At the within-person level, positive affect was significantly correlated only with autonomy-supportive parenting ($r = .12, p = .044$), and perspective-taking only with responsive parenting ($r = .13, p = .017$). At the within-person level, vigor was significantly associated with indulgent ($r = .09, p = .03$) and responsive ($r = .18, p = .002$) parenting.

Table 3
Focal Study Variable Descriptives and Correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
Within-													
1. Work NS	<i>.65/.90</i>	.12	.05	.10	.11*	.02	.02	-.01	.06	.07	-.10	-.04	-.07
2. Home NS	.41*	<i>.73/.98</i>	.35*	.16*	.08	-.01	-.002	-.13*	-.01	.07	.03	-.03	.03
3. Pos. Aff.	-.003	-.08	<i>.88/.96</i>	.03	.49*	.07	.04	.01	-.06	-.01	.12*	-.05	.02
4. Perspect	-.03	.32*	.15	<i>.60/.63</i>	.14*	-.08	-.002	.04	-.05	.13*	.03	.09	-.11
5. Vigor	.38*	.44*	.73*	.32*	<i>.80/.94</i>	.01	.09*	-.02	.06	.18*	-.001	.03	-.08
6. Authortat	.23	.23	.04	.13	-.06	<i>.70/.97</i>	.15*	.03	.26*	.09	-.13*	.14	.14*
7. Indulgent	-.23*	-.08	-.16	-.10	.10	.46*	<i>.50/.90</i>	.03	-.001	.14	.14	.10	.14*
8. Uninv.	-.02	-.07	.22*	-.01	-.11	-.24*	.05	<i>.79/.95</i>	.07	.09	.05	-.14	-.02
9. Autan	.06	.08	.04	-.12	-.25*	.01	.39*	.02	<i>.76/.84</i>	-.09	-.004	.10	.29*
10. Respon.	-.07	.37*	.09	.54*	.46*	.02	.10	-.56*	.09	<i>.77/.92</i>	.45*	.14*	-.04
11. Aut. S.	.40*	-.24*	.05	.21	.18	-.001	.66*	.08	-.31*	.56*	<i>.73/.93</i>	.10	-.05
12. Monit.	.01	.05	.05	-.07	-.24*	-.10	.05	-.04	-.16	.60*	.47*	<i>.75/.90</i>	.23*
13. Maturity	-.25	-.39*	.06	-.02	.20	.70*	-.06	.23	.61*	-.26*	.31*	.49*	<i>.87/.97</i>
Between-													
14. Work C.	.30*	-.28*	.47*	.03	-.25*	-.22	-.11	-.12	.22	-.22	.05	.26	.17
15. Fam. C.	-.07	.36*	.18	.08	.09	-.18	.27	.11	-.08	-.21	.04	.11	.09
<i>M</i>	5.26	4.37	3.41	3.92	4.34	3.81	3.74	1.76	2.57	4.05	3.92	4.06	3.20
<i>SD</i>	.94	.71	.92	.66	1.11	.93	.90	.92	1.10	.67	.69	.75	1.06

Note. Correlations below the diagonal are calculated at the between-person level, correlations above the diagonal are calculated at the within-person level. Cronbach's alpha, calculated at the within- and between-person level, respectively, for daily variables is presented on the diagonal in italics. NS = need satisfaction, variables 6-13 refer to traditional and alternative parenting behavior outcomes. Authoritat = authoritative, Uninv. = uninvolved, Autan = authoritarian, Respon. = responsive, Aut. S. = autonomy-supportive, monit. = monitoring. Correlations are rounded to the second decimal place. * $p < .05$. N_{Level1} ranges from 451 (Authoritarian Parenting) – 545, $N_{\text{Level2}} = 94$. Work Centrality $M = 4.73$, $SD = 1.37$, Family Centrality $M = 6.27$, $SD = .86$, r for Work and Family Centrality = $-.12$, $p = .24$.

For additional descriptive information, Table 4 shows the means and standard deviations for within-person control variables and their correlations with traditional parenting style and alternative parenting behavior variables. Table 5 presents the descriptive statistics and correlations for between-person level control variables and parenting outcomes at the between-level.

Table 4

Within-Person Control Variable Descriptives and Correlations with Parenting Variables

	<i>M</i>	<i>SD</i>	Authorit. <i>rs</i>	Indulg. <i>rs</i>	Autan. <i>rs</i>	Uninv. <i>rs</i>	Respon. <i>rs</i>	Aut.-Sup. <i>rs</i>	Monitor. <i>rs</i>	Maturity <i>rs</i>
1. Negative Affect	1.35	.66	.04, -.29*	.004, .20	.01, .28	-.02, .14	-.10, .0001	-.01, -.22*	.01, -.19	.03, .38*
2. Stressor: Work Recognition	3.69	1.0 9	.05, -.40*	.004, -.05	-.03, -.03	-.12*, .03	.11, -.06	-.05, .54*	-.03, -.01	-.01, .32*
3. Stressor: Workload	2.24	1.2 7	-.16*, .13	.12*, -.20	-.003, .17	-.03, .30*	-.03, -.63*	-.05, .28*	.03, .36*	.02, -.08
4. Stressor: Work and Family Demands	2.16	1.2 6	-.06, -.18	.08, -.13	.03, .24	-.07, .55*	-.05, -.01	-.03, -.04	.01, .08	-.02, .32
5. Stressor: Skill Use	4.09	.88	-.08, .17	.02, -.20	.10, -.07	-.08, -.07	-.05, .71*	-.07, .03	.07, -.26	-.01, .04
6. Stressor: Task Significance	4.12	.86	.14*, -.16	.04, .02	-.14*, .01	.004, -.02	.08, -.34*	-.14, .57*	.09, .27*	-.05, -.11
7. Stressor: Coworker Relations	4.32	.85	.03, .06	.05, -.06	-.05, -.15	.03, -.14	-.01, .38	.02, .29	.01, -.39*	.04, .05
8. Partner Support in Parenting	3.72	.54	-.002, .10	.09, .001	.08, -.07	-.07, -.10	.06, .54*	.10, -.38*	.03, .02	-.04, .04
9. Parenting Challenges	1.64	.77	-.07, .05	.06, -.05	.09, .04	.07, .16	-.17*, .01	-.12*, -.26	.02, -.36*	-.02, .50
10. Time Spent with Child (Hours)	3.64	2.2 9	-.08, -.01	.04, .12	.06, -.05	.03, -.02	.16*, .08	.09*, .04	.01, .31*	-.11*, -.03
11. Weekday/Weekend			.07, -.001	.01, -.29	.002, .06	-.08, .45	-.05, -.64	.07, .39	.02, .30	-.03, .59

Note. Correlations presented first represent the relationships between the within-person component of the latent decomposed variables and correlations presented second represent the relationship at the between-person level. $N_{\text{Within-Person}} = 451\text{--}545$, $N_{\text{Between-Person}} = 96$. * $p < .05$.

Table 5

Between-Person Control Variable Descriptives and Correlations with Parenting Variables

	<i>M</i>	<i>SD</i>	Authorit.	Indulg.	Autan.	Uninv.	Respon.	Aut.-Sup.	Monitor	Maturity
			<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
1. Parent Identification	4.23	.69	-.24*	.11	-.09	.10	.62*	.07	-.08	-.02
2. Parenting: Gender Essentialism	2.28	1.02	-.16	-.20	.01	.35*	-.18	.16	-.12	.17
3. Parenting: Stimulating	5.03	.83	.13	-.18	.09	-.14	.02	.44*	-.13	.01
4. Parenting: Child-Center	4.22	1.00	-.08	-.12	-.24	-.15	-.21	.20	.45*	.02
5. Parenting: Fulfilling	4.56	1.08	-.22	.12	-.16	.04	.61*	-.15	-.19	.16
6. Parenting: Challenging	4.28	.92	.11	-.03	.04	-.22	-.05	-.27*	-.19	.34
7. Negative Assertion	3.18	1.06	-.09	.004	-.02	-.24	-.08	.40	-.13	.02
8. Conflict Management	3.72	.80	.41*	-.08	-.11	.06	.35	-.21	.02	-.24*
9. Perspective-Taking	4.02	.75	.07	-.08	.03	.09	-.33	.42*	.26	-.07
10. Empathic Concern	3.95	.95	-.25	.12	-.07	.07	.26	-.19	-.24	.37*
11. Parent Age	40.40	6.49	-.13	.06	.29*	.003	.40*	-.12	-.18	-.27
12. Parent Sex			-.05	.01	.05	-.17	.03	-.06	.01	.12
13. Black/African American vs. Mean			-.12	-.16	.05	-.05	-.46*	.49*	.11	.01
14. Asian vs. Mean			-.18	.24*	-.20*	.18*	.23	-.35*	-.24*	.37*

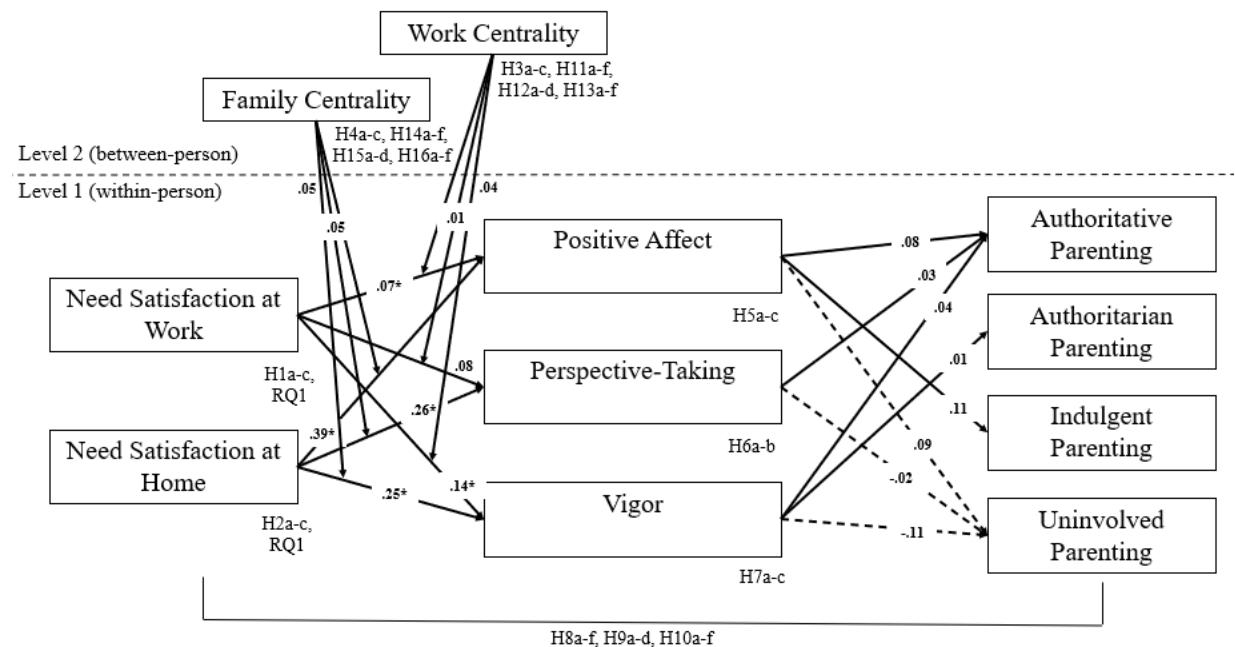
Note. Correlations with within-person level parenting variables represent relationships with the between-person component of the latent decomposed variables. Sex is dummy coded (Female = 0), race/ethnicity is effect coded (White = -1). $N_{\text{Between-Person}} = 88$ (Race/ethnicity effect coded variables)-96. * $p < .05$.

Hypothesized Results

Figure 2 presents the study model with unstandardized path coefficients.

Figure 2

Study Model with Path Coefficients



Note. Coefficient estimates are standardized and rounded to the second decimal place. Separate models were conducted for each parenting outcome given model complexity (the same front end paths were consistent across models). Paths with positive affect were modeled as fixed effects. Dummy coded weekday/weekend (Weekday = 0) was included in all parenting outcome models as a control for mediator enrichment state and parenting outcome variables. $N_{\text{Within-Person}} = 450$ (Authoritarian Parenting)-544, $N_{\text{Between-Person}} = 94$. * $p < .05$.

Hypotheses 1-7 were tested in multilevel path models. Given model complexity, I conducted separate models for each parenting behavior outcome. The initial analysis returned an error message that Monte Carlo integration was required (a type of algorithm needed for calculations with missing data for a mediator, Muthén & Muthén, 2017). Including the algorithm nevertheless returned an error message that computation could not be completed for the model. Estimating less-computationally demanding fixed slopes for paths with the mediator positive

affect resulted in models terminating normally sans error or warning messages. Accordingly, paths with positive affect are estimated as fixed rather than random slopes. Multilevel path model results with unstandardized coefficients (and reporting all paths between enrichment state and parenting style variables) are reported in Table 6.

Table 6
Multilevel Path Model Results for Focal Study Variables

	Outcome Variables						
	Positive Affect	Perspective-Taking	Vigor	Authoritative	Indulgent	Authoritarian	Uninvolved
<i>Within-Person</i>							
Work Need Sat.	.07* (.03)	.06 (.05)	.16* (.05)				
Home Need Sat.	.50* (.08)	.24* (.07)	.38* (.12)				
Positive Affect				.07 (.12)	.13 (.08)	-.05 (.11)	.08 (.08)
Perspective-Taking				-.07 (.10)	.06 (.10)	-.19 (.10)	-.01 (.08)
Vigor				.02 (.10)	.08 (.08)	-.01 (.05)	-.07 (.06)
Weekday/Weekend	.06 (.06)	.04 (.06)	.13 (.09)	.06 (.11)	.04 (.11)	.15 (.13)	-.10 (.10)
<i>Between-Person</i>							
Work Centrality		.01 (.04)	.05 (.07)				
Family Centrality		.26* (.05)	.54* (.09)				
Work NS. X Work Cen.		.01 (.03)	.03 (.04)				
Home NS. X Family Cen.		.03 (.05)	.10 (.06)				

Note. Separate models were tested for each parenting style outcome variable (authoritative, indulgent, authoritarian, and uninvolved parenting). Coefficients are unstandardized. Standard errors are presented in parentheses. Coefficient estimates are rounded to the second decimal place. Paths including positive affect and control variable weekday/weekend were modeled as fixed effects, and other paths as random effects. Weekday/weekend is dummy coded (Weekday = 0). $N_{\text{Within-Person}} = 450$ (Authoritarian Parenting)-544, $N_{\text{Between-Person}} = 94$. * $p < .05$.

To start, Hypotheses 1a-c proposed that at the within-person level, work need satisfaction would predict greater positive affect, perspective-taking, and vigor. Work need satisfaction was significantly associated with positive affect ($\gamma = .07$, $se = .03$, 95% CI = [.002, .14], $p = .04$) and greater vigor, ($\gamma = .14$, $se = .05$, 95% CI = [.05, .23], $p = .002$), but was not significantly associated with child's perspective-taking ($\gamma = .08$, $se = .07$, 95% CI = [-.05, .22], $p = .23$). Hypotheses 2a-c then proposed that home need satisfaction would relate to greater positive affect, perspective-taking, and vigor, respectively. Home need satisfaction was indeed associated with greater positive affect, ($\gamma = .39$, $se = .06$, 95% CI = [.27, .51], $p < .001$), perspective-taking, ($\gamma = .26$, $se = .07$, 95% CI = [.11, .40], $p < .001$), and vigor, ($\gamma = .25$, $se = .07$, 95% CI = [.10, .39], $p = .001$). Hypothesis 1b is not supported, whereas support is found for Hypotheses 1a, 1c and 2a-c.

Hypotheses 3a-c were that work centrality would moderate the Level 1 relationships between work need satisfaction with enrichment states, such that these positive relationships would be enhanced for workers with higher work centrality. Testing for cross-level moderation requires random slopes (i.e., there must be variance at Level 1 for a cross-level moderator to predict). The computational limitations with the variable positive affect meant that I estimated the paths for this variable as fixed slopes. The interaction between work need satisfaction and work centrality predicting child's perspective-taking was not significant, ($\gamma = .01$, $se = .07$, 95% CI = [-.12, .14], $p = .88$), nor was the interaction predicting vigor, ($\gamma = .04$, $se = .04$, 95% CI = [-.04, .12], $p = .35$).

Hypotheses 4a-c likewise proposed a moderation effect of family centrality for the relationships between home need satisfaction with enrichment states, such that these relationships would be stronger for workers whose family role was a more central component of

their identity. There was a main effect of family centrality in predicting perspective-taking, ($\gamma = .39$, $se = .08$, 95% CI = [.24, .55], $p < .001$), but not of work centrality, ($\gamma = .02$, $se = .08$, 95% CI = [-.13, .16], $p = .83$). Likewise, there was a main effect of family centrality predicting vigor ($\gamma = .47$, $se = .08$, 95% CI = [.32, .62], $p < .001$), but there was not a main effect for work centrality, ($\gamma = .06$, $se = .09$, 95% CI = [-.11, .23], $p = .47$). The cross-level moderation effect of family centrality on the relationship between home need satisfaction and perspective-taking was also not significant, ($\gamma = .05$, $se = .07$, 95% CI = [-.08, .18], $p = .44$), and nor was the moderation effect with vigor as the outcome ($\gamma = .05$, $se = .04$, 95% CI = [-.02, .13], $p = .18$). Accordingly, no evidence is found in support of Hypotheses 3b-c or 4b-c.

Turning to consider predicting parenting outcomes at home, Hypotheses 5a-c held that, within-person, positive affect would predict greater authoritative and indulgent parenting, and less uninvolved parenting, respectively. Due to model complexity, separate random slope multilevel path models were conducted for each parenting behavior outcome. Results reported are for the model with authoritarian parenting. However, reported relationships do not meaningfully differ between models.

Contrary to predictions, positive affect did not predict authoritative ($\gamma = .08$, $se = .21$, 95% CI = [-.33, .48], $p = .71$), indulgent ($\gamma = .11$, $se = .07$, 95% CI = [-.02, .24], $p = .09$), or uninvolved parenting ($\gamma = .09$, $se = .09$, 95% CI = [-.09, .27], $p = .34$). Hypotheses 6a-b then predicted that child's perspective-taking would be related to greater authoritative parenting and less uninvolved parenting. Perspective-taking was also not significantly associated with authoritative ($\gamma = .03$, $se = .23$, 95% CI = [-.04, .15], $p = .89$) or uninvolved parenting ($\gamma = -.02$, $se = .61$, 95% CI = [-1.21, 1.17], $p = .98$). Hypotheses 7a-c were that vigor would be related to greater authoritative and authoritarian parenting, and less uninvolved parenting. However, vigor

also was not significantly associated with authoritative ($\gamma = .04$, $se = .65$, 95% CI = [-1.24, 1.33], $p = .95$), authoritarian ($\gamma = .01$, $se = .06$, 95% CI = [-.10, .12], $p = .89$), or uninvolved parenting ($\gamma = -.11$, $se = .08$, 95% CI = [-.27, .06], $p = .20$).

I also ran the models again separately including all proposed Level 1 control variables, and again with all proposed Level 2 control variables for parenting outcomes, in separate models given the number of variables and parameters to estimate. The added within-level control variables were all person-mean centered, and between-person control variables were grand-mean centered. Including the controls did not meaningfully change relationships between enrichment state and traditional parenting style variables, save for the relationship between positive affect and indulgent parenting was stronger with the inclusion of within-person level control variables ($b = .22$, $se = .07$, 95% CI = [.07, .36], $p = .003$). Table 7 presents coefficient estimates for relationships between control variables and traditional parenting style outcomes.

Table 7

Multilevel Regression Results with Control Variables and Parenting Behavior Outcomes

	Outcome Variables							
	Authoritat.	Indulg.	Authoritan.	Uninvolv.	Respon.	Aut.-Sup.	Monitor	Maturity
<i>Within-Person</i>								
Negative Affect	.06 (.13)	.04 (.11)	.09 (.11)	-.13 (.10)	-.12 (.08)	-.07 (.05)	.08 (.07)	.08 (.09)
Work Recognition	.01 (.05)	-.04 (.05)	-.02 (.05)	-.08 (.04)	.01 (.04)	-.02 (.03)	-.06* (.03)	.01 (.05)
Workload	-.06 (.04)	.06* (.03)	-.02 (.05)	-.01 (.04)	-.01 (.02)	-.01 (.02)	.02 (.03)	.02 (.03)
Work and Family Demands	.000 (.03)	.03 (.03)	.03 (.04)	-.02 (.05)	-.02 (.02)	-.001 (.03)	-.01 (.03)	-.01 (.04)
Skill Use	-.05 (.05)	-.02 (.05)	.11 (.08)	-.08 (.07)	-.10* (.05)	-.10* (.05)	.01 (.05)	.04 (.08)
Task Significance	.09 (.07)	.04 (.06)	-.13 (.09)	.05 (.06)	.05 (.03)	-.09* (.05)	.07 (.05)	-.10 (.09)
Coworker Relations	.04 (.06)	.10* (.05)	-.06 (.05)	.11* (.05)	.02 (.03)	.08 (.04)	-.02 (.04)	.07 (.06)
Partner Support in Parenting	-.04 (.15)	.31 (.18)	.14 (.28)	-.13 (.16)	.15 (.08)	.17* (.08)	.02 (.09)	-.01 (.16)
Parenting Challenges	-.05 (.08)	.08 (.09)	.11 (.14)	.18 (.10)	-.20* (.05)	-.17* (.05)	-.11 (.06)	-.08 (.12)
Time Spent with Child (Hours)	-.04 (.03)	.05 (.03)	-.06 (.03)	.000 (.02)	.08* (.02)	.06* (.02)	.01 (.02)	-.06 (.04)
Weekday/Weekend	.09 (.14)	.08 (.16)	.15 (.16)	.01 (.12)	-.11 (.08)	-.01 (.06)	-.03 (.08)	.003 (.12)
<i>Between-Person</i>								
Parent Identification	-.04 (.13)	.20 (.20)	-.07 (.14)	-.10 (.79)	.25* (.08)	.19* (.07)	.08 (.11)	-.05 (.16)
Gender Essentialism	-.09 (.14)	-.13 (.19)	.04 (.11)	.23 (.18)	-.12* (.04)	-.07 (.05)	-.11 (.13)	-.004 (.09)
Stimulating	.12 (.10)	.09 (.24)	-.02 (.11)	-.13 (.25)	.09* (.04)	.16* (.07)	.06 (.07)	.11 (.11)
Child-Center	-.08 (.43)	-.18 (.13)	-.15 (.10)	-.05 (.42)	.03 (.05)	-.02 (.12)	.15 (.09)	.02 (.21)
Fulfilling	-.04 (.16)	-.01 (.21)	-.08 (.16)	.03 (.41)	-.05 (.07)	-.01 (.06)	.02 (.16)	-.02 (.12)
Challenging	.21 (.13)	-.01 (.10)	.20 (.12)	-.14 (1.00)	-.04 (.05)	-.04 (.12)	-.001 (.09)	.18 (.14)
Negative Assertion	.001 (.21)	.10 (.18)	-.001 (.12)	-.08 (.71)	-.002 (.04)	.08 (.05)	-.08 (.06)	-.19 (.11)
Conflict Management	.16 (.58)	-.04 (.13)	-.06 (.13)	-.02 (.92)	.06 (.06)	-.04 (.18)	.02 (.08)	.08 (.17)
Perspective-Taking	-.02 (.30)	.18 (.18)	-.01 (.19)	.10 (.87)	-.04 (.05)	.16 (.11)	.10 (.10)	.07 (.17)
Empathic Concern	-.05 (.13)	-.13 (.12)	.10 (.23)	.08 (.14)	-.07 (.05)	-.09 (.07)	-.13 (.08)	.04 (.11)
Parent Age	-.02 (.02)	-.01 (.03)	.02 (.01)	-.004 (.01)	-.001 (.01)	-.01 (.01)	-.02 (.01)	-.02 (.02)
Parent Sex	.06 (.27)	-.01 (.41)	.29 (.24)	-.09 (.35)	-.05 (.09)	-.14 (.11)	-.04 (.15)	.29 (.18)

Table 7. (cont'd)

Black/African American vs. Mean	-.40 (.61)	-.18 (.45)	-.002 (.33)	-.36 (.53)	.19 (.24)	.17 (.28)	-.25 (.82)	-.17 (.45)
Asian vs. Mean	.23 (.20)	.30 (.31)	-.15 (.25)	.35 (.18)	-.19 (.18)	-.12 (.22)	.16 (.69)	.27 (.28)

Note. Coefficients are unstandardized. Standard errors are presented in parentheses. Weekday/weekend is dummy coded (Weekday = 0), Race/ethnicity is effect coded (White = -1). $N_{\text{Within-Person}} = 419$ (Authoritarian Parenting in model with all Within-Person controls)-544, $N_{\text{Between-Person}} = 88$ (Race/ethnicity)-96. * $p < .05$.

Hypotheses 8-10 proposed mediation effects. Hypotheses 8a-f were that positive affect would mediate the indirect effect of work and home need satisfaction with authoritative, indulgent, and uninvolved parenting. These hypotheses were tested with the Monte Carlo method, creating 95% confidence intervals with 20,000 repetitions around coefficient estimates for indirect effects (Selig & Preacher, 2008). The indirect effect of daily need satisfaction through the home role, via positive affect, was not significant (estimate = .01, 95% CI = -.003, .02), nor was the indirect effect estimate for indulgent, (estimate = .01, 95% CI = -.00, .03), or uninvolved parenting (estimate = .01, 95% CI = -.002, .02). The indirect effects for home need satisfaction with authoritative (estimate = .04, 95% CI = -.02, .11), and uninvolved parenting (estimate = .05, 95% CI = -.02, .13), through positive affect, were likewise not significant. Alternately, the indirect effect of home need satisfaction on indulgent parenting, transmitted via positive affect, was positive and significant (estimate = .09, 95% CI = .02, .17).

Hypotheses 9-10 were tested in random slope multilevel mediation models, using the Monte Carlo method with 20,000 replications to create 95% confidence intervals around estimated indirect effects (Preacher & Selig, 2010). Hypotheses 9a-d predicted that child's perspective-taking would mediate indirect relationships between work and home need satisfaction with authoritative and uninvolved parenting. The mediated effect of work need satisfaction on authoritative parenting through perspective-taking was not significant (estimate = -.03, 95% CI = -.42, .19), nor was the mediated effect for uninvolved parenting, (estimate = -.03, 95% CI = -.42, .19). Similarly, the mediated effect of home need satisfaction, through perspective-taking, with authoritative parenting was not significant (estimate = -.10, 95% CI = -.30, .27), and neither was the effect for uninvolved parenting (estimate = -.01, 95% CI = -.07, .08).

Finally, Hypotheses 10a-f were that vigor would mediate the indirect relationships between basic need satisfaction at work and at home with authoritative, authoritarian, and uninvolved parenting. However, the indirect daily effect of having needs satisfied at work, via vigor, was not significant for authoritative (estimate = -.001, 95% CI = -.06, .06), authoritarian (estimate = .01, 95% CI = -.05, .06), or uninvolved parenting (estimate = .001, 95% CI = -.06, .05). Moreover, the indirect effect, through vigor, was also not significant for home need satisfaction for authoritative (estimate = .07, 95% CI = -1.25, 6.78), authoritarian (estimate = .04, 95% CI = -.07, .12), or uninvolved parenting (estimate = -.01, 95% CI = -.14, .14), either. Overall, then, results show some support for Hypothesis 8e, but no support for remaining Hypotheses 8a-f, 9a-d, or 10a-f.

Hypotheses 11-16 concerned cross-level moderated mediation. Moderated mediation may still occur even in the absence of a significant moderation effect (Hayes, 2015). Accordingly, I tested for moderated mediation by calculating the index of moderated mediation for work and home need satisfaction, enrichment states of child's perspective-taking and vigor, and the four traditional parenting style outcomes (Hayes, 2015; Rockwood, 2017). For authoritative parenting, moderated mediation indices for work need satisfaction with perspective-taking (*index* = -.001, 95% CI = -.007, .006) and vigor (*index* = .001, 95% CI = -.006, .007), as well as home need satisfaction with perspective-taking (*index* = -.003, 95% CI = -.015, .009) and vigor (*index* = .001, 95% CI = -.008, .01), included zero. For indulgent parenting, indices for work need satisfaction with perspective-taking (*index* = .000, 95% CI = -.001, .001) and vigor (*index* = .002, 95% CI = -.005, .009), as well as home need satisfaction with perspective-taking (*index* = .000, 95% CI = -.006, .006) and vigor (*index* = .003, 95% CI = -.009, .014), likewise all included zero. These were the same findings for authoritarian parenting, for work need satisfaction with

perspective-taking (*index* = -.001, 95% CI = -.009, .008) and vigor (*index* = .004, 95% CI = -.006, .014), as well as home need satisfaction with perspective-taking (*index* = -.005, 95% CI = -.023, .013) and vigor (*index* = .008, 95% CI = -.014, .03). And also, finally, for uninvolved parenting, work need satisfaction with perspective-taking (*index* = .000, 95% CI = -.003, .004) and vigor (*index* = -.001, 95% CI = -.005, .004), as well as home need satisfaction with perspective-taking (*index* = .003, 95% CI = -.007, .013) and vigor (*index* = -.001, 95% CI = -.012, .01). Results therefore do not suggest support for the presence of moderated mediation.

Finally, Research Question 1 queried whether the separate basic psychological needs of autonomy, competence, and relatedness satisfied through the home or work role would differentially relate to positive affect, perspective-taking, and vigor. I ran two separate models with work-related and home-related individual basic psychological needs. Unstandardized path coefficients from multilevel models evaluating individual basic psychological needs satisfied through work and home may be found in Table 8.

Table 8

Multilevel Path Model Results with Individual Need Satisfaction Variables

	Outcome Variables		
	Positive Affect	Perspective-Taking	Vigor
Relatedness - Work	.10* (.04)	-.01 (.03)	.09 (.06)
Competence - Work	.000 (.04)	.03 (.04)	.10* (.05)
Autonomy - Work	.04 (.04)	.05 (.03)	.01 (.04)
Relatedness - Home	.22* (.07)	.07 (.38)	.22 (.22)
Competence - Home	.15* (.05)	.06 (.06)	.16 (.36)
Autonomy - Home	.13* (.06)	.16 (.20)	.03 (.12)

Note. Coefficients are unstandardized. Standard errors are presented in parentheses.

N_{Within-Person} = 419 (Authoritarian Parenting)-539, N_{Between-Person} = 96. * $p < .05$.

Considering need satisfaction through the work role, relatedness predicted greater positive affect, ($\gamma = .15$, $se = .06$, 95% CI = [.04, .26], $p = .01$), but not perspective-taking ($\gamma = .01$, $se = .06$, 95% CI = [-.11, .12], $p = .89$), nor vigor, ($\gamma = .10$, $se = .07$, 95% CI = [-.03, .23], $p = .14$). Need for competence satisfied at work was not associated with positive affect, ($\gamma < .000$, $se = .04$, 95% CI = [-.09, .09], $p = .99$), or perspective-taking, ($\gamma = .04$, $se = .04$, 95% CI = [-.05, .13], $p = .35$), but was related to higher vigor, ($\gamma = .10$, $se = .04$, 95% CI = [.02, .18], $p = .02$). Autonomy need satisfaction was not significantly associated with positive affect, ($\gamma = .05$, $se = .05$, 95% CI = [-.05, .15], $p = .36$), perspective-taking, ($\gamma = .09$, $se = .05$, 95% CI = [-.01, .19], $p = .09$), or vigor, ($\gamma = .004$, $se = .04$, 95% CI = [-.08, .09], $p = .93$).

For individual basic needs satisfied through the home role, relatedness predicted higher positive affect, ($\gamma = .20$, $se = .06$, 95% CI = [.08, .31], $p = .001$), and vigor, ($\gamma = .17$, $se = .07$, 95% CI = [.03, .31], $p = .02$), though not perspective-taking, ($\gamma = .10$, $se = .11$, 95% CI = [-.11, .31], $p = .36$). Competence satisfied through the home role also positively related to positive affect, ($\gamma = .12$, $se = .04$, 95% CI = [.05, .20], $p = .001$), though was not significantly associated with perspective-taking, ($\gamma = .05$, $se = .07$, 95% CI = [-.08, .18], $p = .48$), or vigor, ($\gamma = .11$, $se = .07$, 95% CI = [-.03, .25], $p = .14$). Lastly, autonomy satisfaction at home was similarly

positively associated with positive affect, ($\gamma = .11$, $se = .05$, 95% CI = [.01, .21], $p = .03$), as well as perspective-taking ($\gamma = .18$, $se = .08$, 95% CI = [.03, .32], $p = .02$), but not vigor, ($\gamma = .02$, $se = .07$, 95% CI = [-.13, .16], $p = .82$). Thus, in response to Research Question 1, results suggest that autonomy, competence, and relatedness needs satisfied within the work and home domain tend to show similar relationships to enrichment states of positive affect, perspective-taking, and vigor, there is some evidence that the magnitude of these associations may differ.

Exploratory Results

To examine the data and relationships between daily experiences and parenting behaviors in further depth, I conducted several additional exploratory analyses.

Multilevel Path Analysis with Alternate Parenting Behavior Variables. For one, I also tested relationships between enrichment state variables and alternative parenting variables in multilevel path models (again with paths between positive affect as fixed slopes and with dummy coded weekday/weekend included as a control variable predicting each parenting behavior). Unstandardized coefficient estimates from these models are depicted in Table 9.

Table 9

Multilevel Path Model Results for Alternate Parenting Behavior Variables

	Outcome Variables			
	Responsive	Aut.-Sup.	Monitoring	Maturity
<i>Within-Person</i>				
Positive Affect	.03 (.05)	.11 (.06)	-.01 (.06)	-.01 (.09)
Perspective-Taking	.20* (.07)	.17* (.07)	.14 (.08)	-.13 (.10)
Vigor	.15* (.04)	.07 (.04)	.05 (.05)	.000 (.06)
Weekday/Weekend	.01 (.07)	.03 (.08)	.02 (.07)	-.05 (.09)

Note. Coefficients are unstandardized. Standard errors are presented in parentheses. Coefficient estimates are rounded to the second decimal place. Weekday/weekend is dummy coded (Weekday = 0). $N_{\text{Within-Person}} = 542\text{--}544$, $N_{\text{Between-Person}} = 94$. * $p < .05$.

Positive affect was not a significant predictor of responsiveness in parenting ($\gamma = .004$, $se = .07$, 95% CI = [-.13, .14], $p = .95$), however both child's perspective-taking ($\gamma = .25$, $se = .07$,

95% CI = [.12, .38], $p < .001$), and vigor ($\gamma = .26$, $se = .07$, 95% CI = [.11, .40], $p < .001$), predicted significantly greater responsive parenting. Positive affect ($\gamma = .14$, $se = .08$, 95% CI = [-.02, .29], $p = .08$), and vigor ($\gamma = .10$, $se = .07$, 95% CI = [-.03, .23], $p = .13$), were not significantly associated with autonomy-supportive parenting. Instead, however, vigor was significantly related to greater autonomy-supportive parenting, ($\gamma = .18$, $se = .06$, 95% CI = [.07, .29], $p = .001$).

For the alternative parenting behaviors meant to represent behavioral control in parenting, child monitoring was not significantly associated with positive affect ($\gamma = -.001$, $se = .08$, 95% CI = [-.15, .15], $p = .99$) or vigor ($\gamma = .10$, $se = .07$, 95% CI = [-.03, .22], $p = .14$), but was significantly associated with perspective-taking ($\gamma = .17$, $se = .07$, 95% CI = [.03, .30], $p = .01$). Maturity demands placed on the child were not significantly linked to parents' positive affect ($\gamma = -.003$, $se = .12$, 95% CI = [-.24, .24], $p = .98$), perspective-taking ($\gamma = -.04$, $se = .06$, 95% CI = [-.17, .08], $p = .49$), or vigor ($\gamma = .05$, $se = .14$, 95% CI = [-.23, .32], $p = .74$), either. For another exploratory model, I evaluated paths predicting time spent with child, a proposed control variable, as a parenting outcome variable. Neither positive affect ($\gamma = -.01$, $se = .06$, 95% CI = [-.12, .11], $p = .92$), perspective-taking ($\gamma = -.02$, $se = .05$, 95% CI = [-.12, .08], $p = .72$), nor vigor ($\gamma = .02$, $se = .07$, 95% CI = [-.11, .16], $p = .73$), was significantly related to daily time spent with child.

Unconflated Multilevel Models (Simultaneous Within- and Between-Level

Relationships). For greater insight into the nature of the relationships between daily need satisfaction within separate roles, positive enrichment states, and parenting behaviors, I also tested these relationships simultaneously at the within- and between-person level in unconflated multilevel models (Preacher et al., 2010). For these analyses, the aggregated person-means of

daily Level 1 within-person variables are included in the same paths in the between-person level of the model. This model therefore assumes that the person-means are completely reliable proxies for the actual latent Level 1 variable person-means (Preacher et al., 2010). This assumption is limited in that it does introduce the potential for bias in estimating between-person effects towards the within-person effects, particularly given low ICCs and a low Level 2 sample size (Preacher et al., 2010, 2011). However, it is also less computationally demanding compared to the latent decomposition of within-person variables into separate within- and between-components. For analyses, Level 1 predictors and mediators were group-mean centered. Diverging from the Hypothesized analyses, given reduced model complexity I included all traditional parenting style outcome variables in one model. Table 10 presents the results of this multilevel path model with unstandardized path coefficients.

Table 10
Unconflated Multilevel Path Model Results with Focal Study Variables

	Outcome Variables						
	Positive Affect	Perspective-Taking	Vigor	Authoritative	Indulgent	Authoritarian	Uninvolved
<i>Within-Person</i>							
Work Need Sat.	.07* (.03)	.07 (.05)	.16* (.05)	.06 (.07)	.02 (.06)	.07 (.08)	-.04 (.06)
Home Need Sat.	.50* (.08)	.21* (.06)	.43* (.12)	-.03 (.10)	.05 (.12)	-.05 (.16)	-.26* (.11)
Positive Affect				.09 (.07)	.14 (.08)	-.08 (.11)	.11 (.08)
Perspective-Taking				-.14 (.07)	.04 (.09)	-.21 (.13)	.08 (.07)
Vigor				-.01 (.07)	.05 (.05)	.07 (.08)	.01 (.06)
Weekday/Weekend				.07 (.11)	.03 (.11)	.11 (.13)	-.12 (.10)
<i>Between-Person</i>							
Work Need Sat.	.31* (.11)	.13 (.07)	.47* (.11)	.10 (.12)	.002 (.11)	-.03 (.15)	-.05 (.11)
Home Need Sat.	.31* (.12)	.39* (.07)	.46* (.14)	.01 (.17)	-.06 (.14)	-.02 (.19)	-.40* (.16)
Positive Affect				.12 (.19)	-.02 (.14)	.11 (.14)	.28* (.11)
Perspective-Taking				.20 (.17)	.29* (.15)	-.19 (.22)	-.14 (.16)
Vigor				-.07 (.17)	.17 (.16)	-.18 (.13)	-.16 (.12)

Note. Results are from a single model including all four parenting style variables. Paths represented are modeled as fixed effects. Coefficients are unstandardized. Standard errors are presented in parentheses. Coefficient estimates are rounded to the second decimal place. Weekday/weekend is dummy coded (Weekday = 0). $N_{\text{Within-Person}} = 450$ (Authoritarian Parenting)-544, $N_{\text{Between-Person}} = 96$. * $p < .05$.

I likewise estimated multilevel models with the simultaneous relationships at the within- and between-person levels for alternative parenting behavior outcome variables, and including time spent with child as a control variable for all parenting variables. The results from this model may be found in Table 11.

Table 11

Unconflated Multilevel Path Model Results with Alternative Parenting Behavior Variables

	Outcome Variables			
	Responsive	Aut.-Sup.	Monitor	Maturity
<i>Within-Person</i>				
Work Need Sat.	.01 (.05)	-.05 (.04)	-.01 (.05)	-.09 (.08)
Home Need Sat.	.08 (.07)	.07 (.08)	.003 (.08)	.05 (.15)
Positive Affect	.03 (.05)	.15* (.07)	-.02 (.07)	-.01 (.08)
Perspective-Taking	.17* (.07)	.14* (.06)	.14 (.09)	-.23* (.12)
Vigor	.11* (.04)	.000 (.05)	.04 (.05)	-.02 (.05)
Weekday/Weekend	.02 (.07)	.03 (.08)	.03 (.07)	-.05 (.09)
<i>Between-Person</i>				
Work Need Sat.	.04 (.06)	.15 (.08)	-.04 (.10)	-.13 (.13)
Home Need Sat.	.24* (.09)	-.14 (.11)	.18 (.14)	-.38* (.17)
Positive Affect	.10 (.08)	.07 (.09)	.18 (.17)	.25 (.20)
Perspective-Taking	.34* (.10)	.43* (.11)	.22 (.17)	.26 (.20)
Vigor	-.002 (.07)	.07 (.09)	-.09 (.14)	.04 (.16)

Note. Results are from a single model including all four parenting outcome variables. The tested model was identical to the model presented in Table 9, but with the different parenting outcome variables. The same paths between need satisfaction and mediation variables were included in the model and results do not differ from those presented in Table 9. Paths represented are modeled as fixed effects. Coefficients are unstandardized. Standard errors are presented in parentheses. Coefficient estimates are rounded to the second decimal place.

Weekday/weekend is dummy coded (Weekday = 0). $N_{\text{Within-Person}} = 541\text{--}543$, $N_{\text{Between-Person}} = 96$.

* $p < .05$.

At the between-person level, there was a significant indirect effect of home need satisfaction, through perspective-taking, in predicting responsiveness (estimate = .13, $se = .04$, $p = .002$), and autonomy-supportive parenting (estimate = .16, $se = .05$, $p < .001$). On average, working parents who tended to have their basic psychological needs satisfied within their home role were more likely to adopt their child's perspective, and as a result they may tend to be more responsive towards their children and supportive of their children in developing their autonomy.

Additional Multilevel Mediation Analyses. For completeness, I tested mediation effects between work and home need satisfaction and all traditional parenting style outcome variables, via enrichment states, beyond those formally hypothesized. These analyses were all conducted with the Monte Carlo method (Preacher & Selig, 2010), in the same manner as described for hypothesized indirect effects. The results of these exploratory mediation analyses are presented in Table 12.

Table 12

Within-Person Indirect Effects and Confidence Intervals for Traditional Parenting Styles

Indirect effects	Estimate of Indirect Effect	95% CI
Work NS -> Positive Affect -> Authoritative	.01	-.0025, .0191
Home NS -> Positive Affect -> Authoritative	.044	-.0156, .1108
Work NS -> Positive Affect -> Indulgent	.012	-.0002, .0298
Home NS -> Positive Affect -> Indulgent	.087*	.0174, .1671
Work NS -> Positive Affect -> Authoritarian	-.002	-.0188, .0131
Home NS -> Positive Affect -> Authoritarian	-.015	-.1187, .0858
Work NS -> Positive Affect -> Uninvolved	.007	-.0022, .0223
Home NS -> Positive Affect -> Uninvolved	.053	-.0158, .1282
Work NS -> Perspective-Taking-> Authoritative	-.032	-.4234, .1925
Home NS -> Perspective-Taking-> Authoritative	-.095	-.2983, .2708
Work NS -> Perspective-Taking-> Indulgent	-.003	-.0417, .0517
Home NS -> Perspective-Taking-> Indulgent	.061	-.1047, .1407
Work NS -> Perspective-Taking-> Authoritarian	-.072	-.1857, .1687
Home NS -> Perspective-Taking-> Authoritarian	-.044	-.585, .5713
Work NS -> Perspective-Taking-> Uninvolved	.013	-.053, .0577
Home NS -> Perspective-Taking-> Uninvolved	-.01	-.0662, .0829
Work NS -> Vigor-> Authoritative	-.001	-.0597, .0662
Home NS -> Vigor-> Authoritative	.069	-1.25, 6.783
Work NS -> Vigor-> Indulgent	.022	-.0806, .1757
Home NS -> Vigor-> Indulgent	.075	-.0346, .1421
Work NS -> Vigor-> Authoritarian	.008	-.046, .0634
Home NS -> Vigor-> Authoritarian	.035	-.0734, .1173
Work NS -> Vigor-> Uninvolved	.001	-.0554, .048
Home NS -> Vigor-> Uninvolved	-.01	-.1433, .1431

Note. Separate models were tested for each parenting style outcome variable, and come from the full hypothesized multilevel path models including work and family centrality. Paths including positive affect and weekday/weekend were modeled as fixed effects, and other paths as random effects. Dummy-coded weekday/weekend was included as a control variable for all parenting style outcomes. $N_{\text{Within-Person}} = 451$ (Authoritarian Parenting)-545. * $p < .05$.

Of note, at the within-person level, there was an indirect effect of home need satisfaction in predicting indulgent parenting, through positive affect, (estimate = .09, 95% CI = .02, .17), but no other indirect effects were significant. I similarly examined the within-person indirect effects for alternative parenting behavior variables (presented in Table 13). Home need satisfaction similarly related to significantly higher autonomy-supportive parenting, via positive affect, (estimate = .07, 95% CI = .02, .13), and no other indirect effects were significant.

Table 13

Within-Person Indirect Effects and Confidence Intervals for Alternative Parenting Variables

Indirect effect	Estimate of Indirect Effect	95% CI
Work NS -> Positive Affect -> Responsive	.006	-.0006, .0178
Home NS -> Positive Affect -> Responsive	.048	-.1701, .2697
Work NS -> Positive Affect -> Autonomy-Supportive	.01	-.0002, .0246
Home NS -> Positive Affect -> Autonomy-Supportive	.073*	.0182, .1336
Work NS -> Positive Affect -> Monitoring	.001	-.007, .0097
Home NS -> Positive Affect -> Monitoring	.007	-.0458, .0594
Work NS -> Positive Affect -> Maturity Demands	-.002	-.0159, .0099
Home NS -> Positive Affect -> Maturity Demands	-.015	-.0956, .0647
Work NS -> Perspective-Taking-> Responsive	.013	-.0284, .0516
Home NS -> Perspective-Taking-> Responsive	.045	-.0084, .1008
Work NS -> Perspective-Taking-> Autonomy-Supportive	.026	-.1146, .1272
Home NS -> Perspective-Taking-> Autonomy-Supportive	.034	-.0377, .0936
Work NS -> Perspective-Taking-> Monitoring	-.10	-.0295, .0523
Home NS -> Perspective-Taking-> Monitoring	.08	-.124, .1957
Work NS -> Perspective-Taking-> Maturity Demands	-.069	-.0767, .0367
Home NS -> Perspective-Taking-> Maturity Demands	-.043	-1.165, .0718
Work NS -> Vigor-> Responsive	.046	-.1003, .1486
Home NS -> Vigor-> Responsive	.085	-.0454, .1683
Work NS -> Vigor-> Autonomy-Supportive	.014	-.0114, .0411
Home NS -> Vigor-> Autonomy-Supportive	.015	-.0448, .0646
Work NS -> Vigor-> Monitoring	.002	-.0323, .0644
Home NS -> Vigor-> Monitoring	.031	-.0368, .1072
Work NS -> Vigor-> Maturity Demands	-.016	-.2033, .1735
Home NS -> Vigor-> Maturity Demands	-.001	-.1069, .0998

Note. Separate models were tested for each parenting outcome variable, and come from the full hypothesized multilevel path models including work and family centrality. Paths including positive affect and weekday/weekend were modeled as fixed effects, and other paths as random effects. Dummy-coded weekday/weekend was included as a control variable for all parenting outcomes. $N_{\text{Within-Person}} = 543\text{--}544$. * $p < .05$.

Additional Cross-Level Moderation Analyses. I also conducted an additional exploratory multilevel moderation analyses to investigate potential interactions between work need satisfaction and family centrality, and family need satisfaction and work centrality in predicting enrichment states. For this analysis, I reran the hypothesized multilevel path model, but for the sake of parsimony and relevance I excluded paths with a parenting outcome. Instead, I included the additional paths at the between-level to test the moderating effect of work centrality on the random slopes of the paths between home need satisfaction predicting perspective-taking and vigor, and the moderating effect of family centrality on random slopes for paths between work need satisfaction predicting perspective-taking and vigor. The cross-level interaction between work need satisfaction and family centrality predicting perspective-taking was not significant, ($b = -.07$, $se = .11$, 95% CI = $[-.29, .15]$, $p = .53$), and neither was the interaction predicting vigor, ($b = -.06$, $se = .06$, 95% CI = $[-.17, .05]$, $p = .29$). Likewise, the moderation effect between family need satisfaction with work centrality predicting perspective-taking was also not significant, ($b = -.04$, $se = .06$, 95% CI = $[-.15, .07]$, $p = .51$), and neither was the interaction predicting vigor, ($b = -.12$, $se = .06$, 95% CI = $[-.27, .03]$, $p = .11$).

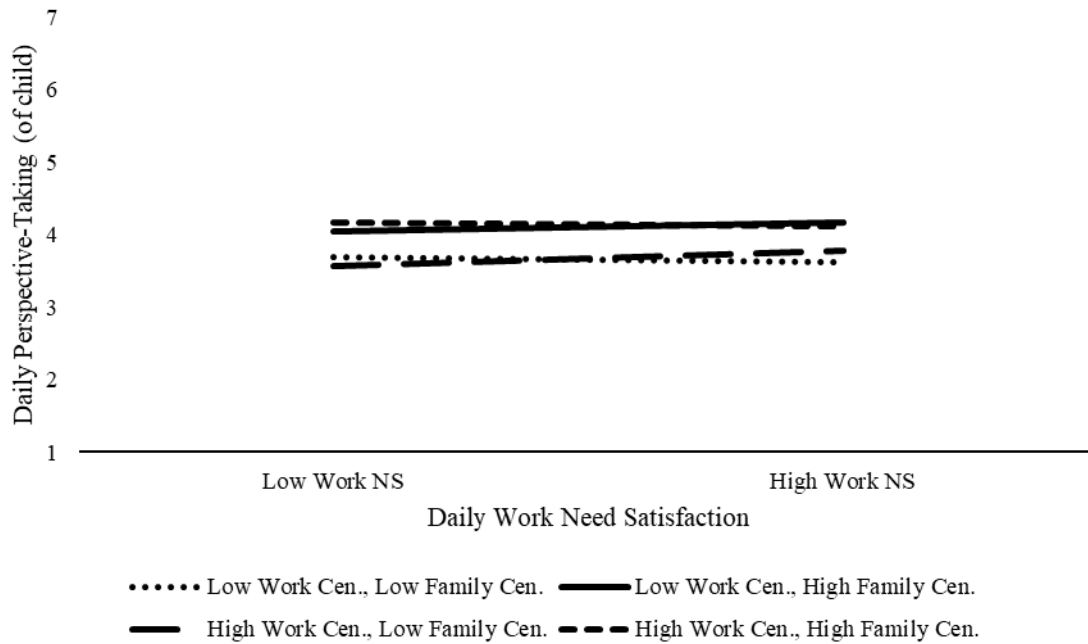
To explore interaction effects thoroughly, I also tested for a three-way interaction between work need satisfaction with both work and family centrality, as well as home need satisfaction with both work and family centrality. For this analysis I calculated the interaction term between work and family centrality at the between-person level, and included the path regressing the slope of work and home need satisfaction predicting enrichment states onto this variable along with both work and family centrality. The three-way interaction between work need satisfaction, work centrality, and family centrality, was significant in predicting child's perspective-taking ($b = -.10$, $se = .04$, 95% CI = $[-.18, -.01]$, $p = .03$). Conversely, the three-way

interaction with work need satisfaction predicting vigor was not significant, ($b = .01$, $se = .04$, 95% CI = $[-.06, .08]$, $p = .83$), nor was the interaction with home need satisfaction predicting perspective-taking, ($b = -.04$, $se = .06$, 95% CI = $[-.14, .07]$, $p = .53$), or vigor, ($b = -.03$, $se = .05$, 95% CI = $[-.13, .07]$, $p = .59$).

To facilitate interpretation of the significant three-way interaction between work need satisfaction and work and family centrality in predicting child's perspective taking, I plotted the simple slopes for the interaction at different levels of work need satisfaction and work and family centrality (1 SD below and below the mean, Aiken & West, 1991). The simple slopes for the three-way interaction are presented in Figure 3. At lower levels of both work and family centrality ($M - 1$ SD) the simple slope of daily work need satisfaction on daily child's perspective-taking was weakly negative ($b = -.07$, $se = .08$, 95% CI $[-.22, .08]$, $p = .38$). Conversely, for parents with lower work centrality yet higher family centrality, the simple slope was positive, ($b = .12$, $se = .06$, 95% CI $[-.01, .25]$, $p = .06$), and, further, was even more strongly positive for parents with lower family centrality and higher work centrality, ($b = .22$, $se = .12$, 95% CI $[-.01, .44]$, $p = .06$). Yet at higher levels of both work and family centrality, the simple slope for daily work need satisfaction and child's perspective-taking was weaker and negative, ($b = -.05$, $se = .12$, 95% CI $[-.28, .17]$, $p = .66$).

Figure 3

Simple Slopes for Three-Way Interaction Between Work Need Satisfaction and Work- and Family-Centrality in Predicting Perspective-Taking



Note. Low values = 1 SD below the variable mean, high values = 1 SD above the mean.
 $N_{\text{Within-Person}} = 539$, $N_{\text{Between-Person}} = 94$.

Supplemental Partner Reports. For a final additional supplementary analysis, I also solicited “other-reports” (Podsakoff et al., 2003) from a romantic partner for additional validity evidence of actual enrichment states and parenting behaviors actually performed. Romantic partners of focal participants who are also participating on Prolific were invited to participate in the study.

A total of 74 focal participants were recruited through Prolific with the additional eligibility requirement that their romantic partner also had a Prolific account and would be willing to take part in the study as well. These focal participants were then invited to complete a survey to confirm the eligibility and give informed consent for the study. They were additionally

asked to provide their romantic partner's Prolific ID. Of the initial 74 focal participants, 32 (43.24%) were in fact eligible based on results of an eligibility confirmation survey and provided their partner's Prolific ID. Seventeen of the 32 (53.13%) romantic partners invited to participate in the study through Prolific responded and gave their informed consent to participate in the study. A total of 12 partners then completed at least two surveys reporting on their partner's states and parenting behaviors.

Partners were similarly asked to complete a Time 1 baseline survey reporting on their partner, as well as evening measures of their perceptions of the focal participant's enrichment states and parenting behaviors over the 10 days. They were likewise compensated with \$1.50 for each completed evening survey response, and \$2.00 for completing the T1 baseline survey. For romantic partner's surveys, all items were adapted to have their partner (i.e., the focal study participant) serve as the referent for ratings.

This small sample of 12 partner reports (with between 76-89 total daily partner observations matched to focal participant observations, depending on the study variable) provides some additional support for focal participants' mood states and parenting behaviors. The matched partner's reports of the primary participant's enrichment states and parenting behaviors for the same evening were all significantly correlated, suggesting that participants may not have viewed themselves completely unobjectively in their parenting self-reports. The correlation between partner and participant reports of the primary participant's positive affect over study evenings was $r = .77, p < .00$, primary participant's perspective-taking for children was $r = .55, p < .001$, vigor was $r = .61, p < .001$, and negative affect was $r = .91, p < .001$.

The correlation between partner's evening ratings and participant's morning ratings of participants' authoritative parenting in the evening was $r = .31, p = .01$, authoritarian parenting

was $r = .72, p < .001$, indulgent parenting was $r = .67, p < .001$, and uninvolved parenting was $r = .50, p < .001$. Additionally, concerning additional behaviors similarly meant to capture responsiveness and control in parenting, responsive parenting reports between partners and participants were correlated $r = .58, p < .001$, autonomy-supportive parenting was $r = .54, p < .001$, monitoring was $r = .51, p < .001$, and maturity demands was $r = .34, p < .001$. These results offer additional evidence in support of measurement validity for the use of self-reported enrichment states and parenting behaviors.

DISCUSSION

For this dissertation, I questioned whether daily basic psychological need satisfaction within both the work and home role would both relate to well-being states and performance carrying over to a subsequent role. A second aim was to examine whether proximal factors, in the form of positive states, may inform the daily behavioral expression of given parenting styles conceptualized and studied at the stable, between-person level. I predicted that having needs satisfied within work or home would allow for better role performance as a parent, through generating positive resource states that would facilitate parenting performance.

Hypothesized relationships between work and home need satisfaction received partial support. Daily work and home need satisfaction related to greater positive affect and vigor, with home need satisfaction additionally predicting significantly greater vigor. It is also notable that home need satisfaction tended to have stronger relationships with enrichment states and parenting variables. It could be that need satisfaction within some domains may be more impactful, in general, between-people (as proposed by the expected but unsupported moderation effects of domain centrality). But this pattern of findings could also be due to the timing of measurement, which was in the early evening when workers had returned home/assumed their home role, so the home domain may have been felt as more immediately relevant. Even if so, it is noteworthy if the current role inhabited influences the weight exerted by need satisfaction on states and behaviors, but there are still lingering effects of need satisfaction from the previous role.

The pattern of differing relationships between need satisfaction at home compared to work complements the literature on need satisfaction, suggesting that basic need satisfaction within multiple daily roles informs well-being states and behaviors. In terms of related research,

across multiple domains, Milyavskaya and Koestner (2011) found that (perhaps unsurprisingly), on average, need satisfaction within the family domain was significantly higher than reported need satisfaction in the work domain. In a daily diary survey study, Hewett et al. (2017) found that competence need satisfaction through the home role exerted a buffering effect, such that workers who did not have their competence needs met at work still experienced better mood measured at bedtime if they were able to feel competent at home. Hewett and colleagues did not find the same effects for autonomy or relatedness. Present findings add that in lived experience, having needs satisfied within one role may still continue to relate to positive feeling states and even behaviors within a subsequent role.

However, positive enrichment states were not significantly associated with parenting style expression (i.e., authoritative, indulgent, authoritarian, or uninvolved parenting behaviors). There may be additional considerations for adopting a daily design to study parenting styles. Parenting styles are multidimensional, given that they are formed on the basis of the degree of warmth/control that parents display (Darling, 1999). As parenting styles may consist of multiple differing behaviors, it may be more appropriate to study them at wider time intervals (e.g., examining work-related factors as predictors of parenting style expression over weeks or months). At the daily level, it may be more appropriate to study specific parenting behaviors, as narrower constructs.

For exploratory findings, instead, daily perspective-taking was positively associated with responsive and autonomy-supportive parenting, and daily vigor was additionally related to responsive parenting. Both responsive and autonomy-supportive parenting are theorized to be representative of nurturance, derived from the initial presented dimension of warmth in parenting (Skinner et al., 2005; Sleddins et al., 2014). Adopting their child's perspective may make parents

more inclined to offer support and warmth towards children, perhaps because doing so raises their awareness of children's comparative vulnerability and attention is turned towards the child, rather than their own preoccupations (which may spur a more altruistic mindset, Batson et al., 1997). Vigor may also serve as a valued resource as energy is required for parents to be present and show warmth.

Hypothesized cross-level moderation effects between work and home need satisfaction with work and family centrality, respectively, likewise were not supported. However, there was a significant three-way interaction between daily work need satisfaction, work centrality, and family centrality in predicting daily child's perspective-taking. Simple slope results tentatively suggest that the daily, "lived" transmission of resources generated within one domain carrying into another may differ accordingly based on the relevance of *both* domains to the self. The simple slope for daily work need satisfaction and child's perspective-taking was most strongly positive at a low level of family centrality but high work centrality. Given that for most the workday may have ended in the early evening, with family responsibilities more likely to move to the forefront of attention, it may be that beneficial effects from needs being satisfied at work may be more likely to persist and act as a resource to support parenting for workers to whom work is more central to their identity.

Theoretical Implications

This study offers contributions to theory across literatures. First, in studying the consequences of daily need satisfaction in two separate roles, I contribute to basic psychological needs theory. As a generative framework, the antecedents and outcomes of having basic psychological needs fulfilled has been studied across a variety of domains, including work (e.g., Autin et al., 2022; Busque-Carrier et al., 2022; Olafsen et al., 2021), leisure (e.g., Kara et al.,

2021; Leversen et al., 2012), family relationships (e.g., Greene et al., 2019; Sağkal et al., 2018), and other close relationships (e.g., Milyavskaya et al., 2009). However, scholars have typically examined the impact of need satisfaction in a role only for outcomes within the same role, despite the fact that daily life involves ongoing entrances and exits between multiple roles. The burgeoning literature on within-person need fulfillment has also tended to focus on the consequences of need fulfillment within the same role (Coxen et al., 2021).

Findings that daily need satisfaction within a domain may continue to be related to positive states (specifically, positive affect and vigor at home), as well as behaviors, provide some evidence to shift conceptions of the outcomes and lived experience of having basic needs satisfied. Ryan and Deci (2000, pg. 330) discussed uncertainty over whether need satisfaction in alternate roles could serve a compensatory function for unfulfilled needs in another role: “Failure to get one’s needs met within a domain as central as school will surely have costs for well-being and growth, and turning away from school towards sports may or may not be a truly healthy response to this thwarting.” This approach portrays basic need fulfillment as a single category, to which different roles may contribute.

For an alternate perspective, my results suggest that daily basic need fulfillment in work and home are separable and distinct from each other, and also that both may have unique associations with positive daily states and later behaviors. This approach shifts from the dominant manner of studying need satisfaction in particular domains as relevant for outcomes within the same domain (e.g., Coxen et al., 2021; Kaiser et al., 2020; Walker & Kono, 2018) to consider need satisfaction in a manner that is more akin to daily life, which consists of multiple role transitions. This approach lends itself to plentiful opportunities for future research to further explore when and how need fulfillment, unfulfillment, or frustration within one role will

influence subsequent states and outcomes throughout the day (and longer time-intervals). The supporting evidence for basic psychological needs as the key, universal building blocks for well-being and motivation (Deci & Ryan, 2014; Vansteenkiste et al., 2020) warrants this more fine-grained understanding into how need fulfillment may effectively be achieved and maintained.

Consistent with, but adding to, Ryan and Deci's (2000) theorizing that the centrality of a domain is relevant for understanding outcomes of need fulfillment/unfulfillment in different domains, I also offer evidence to suggest that the centrality of both domains may jointly determine the degree to which daily need satisfaction within one domain (work) may have a positive enrichment effect in another domain (family, in terms of greater child's perspective-taking). Spillover effects occurred at mixed levels of work and family centrality (rather than low or high centrality of both roles). This also contributes to the work-home resources (WH-R) model (ten Brummelhuis & Bakker, 2015) by pointing to boundary conditions that may govern whether the transfer of resources between domains. Although inhabiting multiple roles may be valuable for well-being (Allen, 2012), placing high self-relevance on multiple roles may also make prioritizing and focusing on goals within a role more challenging.

Along these lines, a relevant avenue for study is spillover between work and nonwork domains within the context of goal conflict and self-regulatory models of goal-striving. Achieving a desired level of performance in the roles of being a parent, romantic partner, friend, and worker could also be modeled as goal states that people may be actively striving towards. Yet, given limited resources in terms of energy, time, and attention, principles related to dynamic goal pursuit (e.g., prioritizing goals with clear feedback, or goals with greater time pressure, Neal et al., 2017) could help to explain how people manage the demands of multiple sometimes competing roles. Similarly, the interaction pattern between work need satisfaction with work and

family centrality highlights that it may be necessary to incorporate the confluence of multiple identities in order to understand when spillover effects may occur. This suggests taking a person-centered approach (Howard & Hoffman, 2018) incorporating multiple role identities and individual difference factors related to how people perceive their role involvement could be valuable to better-predict spillover effects between roles.

In conceptualizing parenting behaviors established between-person to the daily, within-person level, and examining state-level antecedents of these behaviors, this study also contributes to understanding of long-standing models of parenting. Parenting, including the various parenting styles derived from the entrenched dimensions of control/warmth directed towards children, is understood to be a broad activity, defined as patterns of behaviors (Alizadeh et al., 2011; Baumrind, 1978). Styles of parenting have received a great deal of research attention, primarily as predictors of children's outcomes (Masud et al., 2019; Pinquart & Gerke, 2019; Smetana, 2017). Yet they have almost exclusively been researched at the between-person level, with more theoretical elaboration devoted to unraveling nuances between different forms of parenting (Cuppens & Ceulemans, 2019; Skinner et al., 2005; Smetana, 2017).

It is notable that all parenting behaviors studied exhibited significant variability at the within-person, daily level. Considering the noted importance of parenting behaviors representative of the control/warmth typology for a wide-ranging host of life outcomes, this warrants continued study of the proximal and contextual antecedents of parenting styles as behaviors. Thus, I extend an alternate, but theoretically consistent, direction for study to the literature on parenting by more actively contending with parenting as daily behaviors.

Moreover, results support that both internal cognitive (perspective-taking) and energy-based (vigor) states predict greater degrees of responsive and autonomy-supportive parenting

behavior. These findings also contribute to understanding of parenting by delineating relevant mechanisms, in terms of daily states, which relate to working parents engaging in more nurturing parenting behaviors. Along with reported control variable relationships, findings indicate that contextual factors and parents' positive states may influence the nature of how they parent. This is a theoretically and practically relevant line of inquiry, as it can grant additional leverage into how to shape parenting behaviors in the direction of encouraging more effective parenting long-term. Research could further connect specific emotions (e.g., guilt) as well as motivational states (e.g., controlled parenting, regulatory focus, Brockner & Higgins, 2001) to understand when parents may also be more likely to exert greater control in parenting as well.

Practical Implications

The findings of the present study also hold implications for practice. The fact that daily basic need fulfillment through separate roles may share lasting associations with well-being states across role transitions is further justification for shaping roles to have needs met. Need fulfillment experiences within separate roles in a given day is linked to well-being states, and thus it may be important to work to ensure that different life domains are fulfilling (i.e., rather than focusing attention onto just one domain to have needs met). There are numerous established aspects of work and other roles that predict need satisfaction (Coxen et al., 2021; Van den Broeck et al., 2016). It would also be valuable to produce evidence that need satisfaction through the home role may predict positive states and outcomes at work, even including need satisfaction experienced at work. This is an avenue for future research, and would also justify organizational practices that are supportive of nonwork life and family, as additional path through which investing in supporting workers in their home roles could have a return on work outcomes as well.

Results finding a large degree of intraindividual variability across eight established between-person parenting behaviors, and relationships between well-being states and parenting behaviors representing nurturance/warmth, also have implications for practice. For working parents, to the extent possible, prioritizing healthy positive experiences in the day should be encouraged. Findings specifically offer evidence to societal narratives that good parents ought to abnegate themselves as individuals in service of their children (e.g., Liss et al., 2013b; Prikhidko & Swank, 2019; Smyth & Craig, 2017). Instead, study results suggest that on days when parents experience positive well-being states, they are more likely to be responsive to children and support them in developing their autonomy. These parenting behaviors are associated with positive child outcomes (Skinner et al., 2005; Sleddins et al., 2014). Accordingly, by caring for themselves as individuals, in terms of having daily positive experiences, parents may be more adequately prepared to also care for their children. Although this line of inquiry also needs to be substantiated, connecting work experiences as predictors of parenting behaviors would also hold key policy implications. If parents work experiences have a meaningful impact on their parenting, this broadens the stakeholder base affected by positive work conditions, as parenting outcomes are linked to children's long-term achievement, socialization and performance (Masud et al., 2019; Pinquart & Gerke, 2019; Spera, 2005).

Limitations and Directions for Future Research

Any single study is limited in conclusions that may be drawn, and there are many opportunities for future research on the implications of need fulfillment across roles and on daily parenting behaviors. The broader work-nonwork literature, including specifically the subliterate on work-parenting experiences (Cho & Cianetta, 2016), has tended to focus on negative pathways and work-family conflict. By contrast, this study focused on charting more

positive, resource-based mechanisms through which work experiences may inform family interactions. All the same, further research should investigate the implications of daily negative role experiences.

For instance, if basic psychological needs are thwarted within the home role, but are satisfied within the work role, will the experience of work need satisfaction be able to relate to positive performance and well-being through the transition back into the home role? Or, may having needs thwarted within a domain predispose workers to also experience their needs being thwarted within a subsequent role (e.g., given negative emotion states and behaviors), and is there a compounding effect of having needs thwarted within multiple roles? This would be consistent with a resource-loss spirals described in Conservation of Resources Theory, for example (Hobfoll, 1989). Alternately, the empirical record suggests that workers tend to display stability, even given a loss of resources, over theorized spiral effects (e.g., Ford et al., 2023). For instance, Li et al. (2022) found that when workers expressed deviant behavior toward their families, on following days they were less likely to express deviant behavior towards their supervisor (even though they still felt anger towards their supervisor). These findings suggest that family may also assume a scapegoat effect. Yet, Houlihan et al. (2022) also found that sacrificing basic need fulfillment within a domain to prioritize demands in another domain related to decreased well-being overall.

Accordingly, further research at the within-person level incorporating both positive and negative states and behaviors will be useful to entangle where and when having needs satisfied (or thwarted) in a role may support/impair same- and alternate-role performance, to ultimately help workers in balancing multiple roles effectively. The present study was limited in collecting data at two set timepoints. As states, experiences of need satisfaction and well-being should be

closely associated in time. Yet, the fact that need satisfaction variables and well-being states were assessed at the same time renders interpreting these positive relationships more challenging as they are likely to be inflated to some extent by common method variance (Podsakoff et al., 2003). Although measured at the same time, relationships between work and home need satisfaction and well-being states did differ in strength. Future studies can take additional methodological steps to measure need satisfaction and states at different hours in the day for clearer insight into the daily implications of need satisfaction experiences.

It would also be worthwhile to directly study need satisfaction within one role and ensuing states as they relate to the experience of making a role transition, subsequent role behaviors, and need satisfaction in the new role. Considering need satisfaction variables, it is notable that pilot study results found a very high degree of variance was attributable to the between-person level (with less than 15% of the variance attributable to fluctuations within-people over days). ICC(1) values were not quite as large in the main study, and thus the very high degree of between-person influence for need satisfaction variables found in the pilot could in part be random and stem from the much smaller number of days and participants for the pilot. Yet, need satisfaction variables still tended to have a higher proportion of variance explained by between-person differences compared to other daily variables; this may nevertheless underscore the impact of design considerations. Participants rated daily need satisfaction and momentary, or current, states, and daily ratings may render lower within-person variability compared to momentary ratings (Podsakoff et al., 2019).

There was a three-way interaction between work need satisfaction and work and family centrality, yet similar interaction patterns did not emerge for daily home need satisfaction. Scholars could investigate whether the daily generation of positive resources within a domain

might motivate workers to continue longer in this role, or to instead invest the resources generated into their more self-relevant domain. For instance, at the within-person level, could having one's basic psychological needs satisfied within a role increase the relevance of this role for the self, at the state-level? This line of querying may be supported by findings that positive or valued aspects of a role are associated are linked to greater identification (Cohen-Meitar et al., 2009; Wan-Huggins et al., 1998).

Another study limitation is the reliance on self-reported states and parenting behaviors. Although workers may be the best sources for their feeling states (Chan, 2010), it would be valuable to collect additional data, such as by connecting parenting behaviors to children's daily experiences and outcomes. There is some support for the validity of self-reported parenting behaviors used in this study, as self-reported states and behaviors were all positively and significantly to partner's reports, within a small sample of matched focal participants and partners.

The proposed mediation results linking need satisfaction through work and home with parenting behaviors, via enrichment states, were not supported. It could still be that need satisfaction may generate different enrichment state resources that support parenting performance, or that these effects may be observed at a different timescale (e.g., at the meso-level over a more sustained period of weeks or months). Proposed enrichment state variables were not significantly associated with any of the four traditional parenting style expression variables. In general, it would be valuable to research a wider range of antecedents of parenting behaviors. Although including control variables in analyses did not meaningful change relationships with the main study variables, more notably, there were stronger relationships between some considered controls and parenting behaviors. Factors such as workload, or,

relatedly, absorption in and detachment from work, warrant more featured attention. Contextual work design elements, such as working arrangements (in-person or virtual work, and work-nonwork boundary preferences), should also be studied as predictors of role spillover influencing parenting. Moreover, the established differences in parenting styles and their outcomes within different cultures (e.g., Checa & Abundis-Gutierrez, 2018), warrants comparing patterns of relationships between work experiences and states with parenting behavior expression across cultures specifically.

By the same token, there has been a great degree of theoretical refinement to distinguishing among more fine-grained supportive and unsupportive parenting styles/behaviors, drawing from the traditional control/warmth typology (Skinner et al., 2005). More specific parenting behaviors (representing one dimension, such as responsiveness and autonomy-supportive parenting) may be more relevant at the daily level (whereas parenting styles may then emerge in the aggregate). It is also relevant to map the proximal and contextual antecedents of more harmful parenting behaviors, such as psychological control (e.g., Cuppens & Ceulemans, 2019). Harmful work experiences and stressors could spillover to undermine parenting at home. Negative work experiences, in conjunction with negative emotions and other states (e.g., burnout), should also be studied as predictors of parenting behaviors.

Parenting is understood to be a uniquely rewarding and demanding, yet meaningful, role. It would also be relevant to consider how specific parenting experiences and child interactions may influence parents' work outcomes. In the longer-term, intervention studies may draw from findings on contextual, changeable factors that may be designed to encourage healthy parenting practices.

CONCLUSION

This dissertation extends insight into consequences of basic psychological need satisfaction by evaluating the daily relationships between need satisfaction in two domains (work and home) and well-being states (positive affect, child's perspective-taking, and vigor at home). Moreover, by examining these states as proximal predictors of parenting behaviors, I contribute to the parenting literature, which has convincingly demonstrated the importance of these behaviors at the stable, between-person level for various child outcomes. These alternate approaches to conceiving of lasting effects of basic need fulfillment across multiple role transitions in daily life and parenting behaviors as outcomes at the daily level can be useful to develop understanding of positive role experiences and influences on parenting as they more appropriately model lived experiences.

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APPENDIX A:

Research Participant Information and Consent Form

You are being asked to participate in a research study investigating relationships between work and home experiences. The purpose of this research study is to examine different factors in the work and home roles that influence how people feel in the opposite role. This includes how emotions experienced at home relate to emotions experienced at work, and vice versa.

Your participation is voluntary. You can skip any question you do not wish to answer or withdraw at any time. You may also request that your responses not be included in analyses following your completion of the study. You must be 18 or older to participate. If you have any questions please contact J. A. Van Fossen, at vanfos10@msu.edu. You indicate that you voluntarily agree to participate in this research study by submitting the survey.

Participation in this study entails first completing a 15-minute survey, then 5-minute surveys in the morning and evening over the next 10 days. You will be compensated \$3.00 for each day (out of 10 total) in which you complete both the morning and evening surveys. You will be compensated through Prolific.

There are no foreseeable risks to participating in this study. Any potential risks of participating are no greater than those routinely encountered in daily life. We hope that by participating in this study you will help further understanding of how experiences in the work and home role inform one another.

WHAT YOU WILL BE ASKED TO DO

You will be asked to respond to several questionnaires about yourself in the first 15-minute survey, which you will be asked to complete right now. For this survey you will be asked to respond to questions about yourself and your attitudes, as well as provide demographic information about yourself and your partner and child(ren).

For study participation, you will receive a link to each day's 5-minute morning and evening survey by email each day at 10:00 AM and 8:00 PM Eastern Time for the next 10 days. It is important that you complete these surveys as close as possible to the morning and evening in which you receive the link to the survey. In the morning and evening survey you will be asked to complete ratings about your emotions, attitudes, and behaviors at work and at home that you experienced over the last few hours.

For participation, you will also be asked to share a survey link with your partner. Your partner will be asked to complete one 5-minute survey in the evening over the next 10 days. Your partner will be compensated with \$1.00 for each evening survey that they complete. They will receive compensation in the form of an Amazon e-gift card within three weeks of completing the study.

PRIVACY AND CONFIDENTIALITY

Your responses to all portions of the study will be kept confidential. This study will not ask you to provide your name. Any potentially identifying information (such as your IP address, if

applicable, and partner's email address) will be removed from the data file used for analyses and will be replaced with a nonidentifiable number. All data will be stored on a secure password-protected computer and will only be accessed by researchers.

CONTACT INFORMATION

If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact J. A. Van Fossen (email address: vanfos10@msu.edu).

By clicking on the button below, you indicate your voluntary agreement to participate in this online survey.

Partner Research Participant Information and Consent Form

You are being asked to participate in a research study by providing ratings of your romantic partner's parenting behaviors at home in the evening. This study is investigating relationships between work and home experiences. The purpose of this research study is to examine different factors in the work and home roles that influence how people feel in the opposite role. This includes how emotions experienced at work relate to parenting behaviors at home, and vice versa.

Your participation is voluntary. You can skip any question you do not wish to answer or withdraw at any time. You may also request that your responses not be included in analyses following your completion of the study. You must be 18 or older to participate. If you have any questions please contact J. A. Van Fossen, at vanfos10@msu.edu. You indicate that you voluntarily agree to participate in this research study by submitting the survey.

Participation in this study entails first completing a 10-minute survey, then 5-minute surveys each the evening over the next 10 days. You will be compensated \$1.00 for each evening (out of 10 total) in which you complete both the survey. You will be compensated through with an Amazon e-gift card that will be sent to the email address of your choice.

There are no foreseeable risks to participating in this study. Any potential risks of participating are no greater than those routinely encountered in daily life. We hope that by participating in this study you will help further understanding of how experiences in the work and home role inform one another.

WHAT YOU WILL BE ASKED TO DO

You will be asked to respond to several questions about yourself in the first 10-minute survey, which you will be asked to complete right now. For this survey you will be asked to provide demographic information about yourself and your partner and child(ren).

For study participation, you will receive a link to each evening's 5-minute survey by email each day at 8:00 PM Eastern Time for the next 10 days. It is important that you complete these surveys as close as possible to the evening in which you receive the link to the survey. In the surveys you will be asked to complete ratings about your partner's behaviors interacting with your child(ren) that you observed over the last few hours.

PRIVACY AND CONFIDENTIALITY

Your responses to all portions of the study will be kept confidential. This study will not ask you to provide your name. Any potentially identifying information (such as your IP address, if applicable, and partner's email address) will be removed from the data file used for analyses and will be replaced with a nonidentifiable number. All data will be stored on a secure password-protected computer and will only be accessed by researchers.

CONTACT INFORMATION

If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact J. A. Van Fossen (email address: vanfos10@msu.edu).

By clicking on the button below, you indicate your voluntary agreement to participate in this online survey.

APPENDIX B:

Work and Family Centrality

Please rate your agreement with the following statements. (1=Strongly Disagree, 7=Strongly Agree).

Work Centrality

1. Having work / a career that is interesting and exciting to me is my most important life goal.
2. I expect my job / career to give me more real satisfaction than anything else I do.
3. It is important to me that I have a job / a career in which I can achieve something of importance.
4. It is important to me to feel successful in my work / career.

Family Centrality

1. My life would seem empty if I never had a family.
2. Having a successful family life is the most important thing in life to me.
3. I expect my family life to give me more real personal satisfaction than anything else in which I am involved.
4. Being a part of a family is more important to me than anything else.
5. I expect the major satisfaction in my life to come from my family life.

APPENDIX C:

Parenting Identity and Attitudes Measures

Parenting Identity

Please rate your agreement with the following statements. (1=Completely Untrue, 5=Completely True).

1. Being a parent gives me self-confidence.
2. Being a parent allows me to face the future with optimism.
3. I make a lot of effort to keep finding out new things about my child / children.
4. I often talk with other people about my child / children.
5. I often think it would have been better not to have had any children. (R)
6. I often think that not having a child / children would have made my life more interesting.

(R)

Intensive Parenting Attitudes Questionnaire

Please rate your agreement with the following statements. (1=Strongly Disagree, 6=Strongly Agree).

Essentialism

1. Both fathers and mothers are equally able to care for children. (R)
2. Although fathers may mean well, they generally are not as good at parenting as mothers.
3. Although fathers are important, ultimately children need mothers more.
4. Ultimately, it is the mother who is responsible for how her child turns out.
5. Men do not recognize that raising children is difficult and requires skills and training.
6. Women are not necessarily better parents than men. (R)
7. Men do not naturally know what to do with children.

8. Men are unable to care for children unless they are given specific instructions about what to do.

Fulfillment

1. Being a parent brings a person the greatest joy he or she can possibly experience.
2. Parenting is not the most rewarding thing a person can do. (R)
3. Holding his or her baby should provide a parent with the deepest level of satisfaction.
4. A parent should feel complete when he or she looks in the eyes of his or her infant.

Stimulation

1. Parents should begin providing intellectual stimulation for their children prenatally, such as reading to them or playing classical music.
2. It is important for children to be involved in classes, lessons, and activities that engage and stimulate them.
3. Finding the best educational opportunities for children is important as early as preschool.
4. It is important to interact regularly with children on their level (e.g. getting down on the floor and playing with them).

Challenging

1. Parents never get a mental break from their children, even when they are physically apart.
2. Parenting is exhausting.
3. Child rearing is the most demanding job in the world.
4. Being a parent means never having time for oneself.
5. It is harder to be a good parent than to be a corporate executive.
6. To be an effective parent, a person must possess wide ranging skills.

Child-Centered

1. The child's schedule should take priority over the needs of the parent's.
2. Children should be the center of attention.
3. Children's needs should come before their parents.

APPENDIX D:

Individual Difference Variables Associated with Parenting Quality

Toronto Empathy Questionnaire (TEQ)

Below is a list of statements. Please read each statement carefully and rate how frequently you feel or act in the manner. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can. (1=Strongly Disagree, 5=Strongly Agree).

1. When someone else is feeling excited, I tend to get excited too.
2. Other people's misfortunes do not disturb me a great deal.
3. It upsets me to see someone being treated disrespectfully.
4. I remain unaffected when someone close to me is happy.
5. I enjoy making other people feel better.
6. I have tender, concerned feelings for people less fortunate than me.
7. When a friend starts to talk about his/her problems, I try to steer the conversation towards something else.
8. I can tell when others are sad even when they do not say anything.
9. I find that I am "in tune" with other people's moods.
10. I do not feel sympathy for people who cause their own serious illnesses.
11. I become irritated when someone cries.
12. I am not really interested in how other people feel.
13. I get a strong urge to help when I see someone who is upset.
14. When I see someone being treated unfairly, I do not feel very much pity for them.
15. I find it silly for people to cry out of happiness.
16. When I see someone being taken advantage of, I feel kind of protective towards him/her.

Interpersonal Competence Questionnaire (ICQ) Brief Form

Please rate yourself on the following statements using the scale provided.

1 = "I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible"

2 = "I'm only fair at this; I'd feel uncomfortable and would have lots of difficulty handling this situation"

3 = "I'm OK at this; I'd feel somewhat uncomfortable and have some difficulty handling this situation"

4 = "I'm good at this; I'd feel quite comfortable and able to handle this situation"

5 = "I'm EXTREMELY good at this; I'd feel very comfortable and could handle this situation very well"

Negative Assertion

1. Telling a companion you don't like a certain way he or she has been treating you.
2. Saying "no" when a date/acquaintance asks you to do something you don't want to do.
3. Turning down a request by a companion that is unreasonable.

Conflict Management

1. Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.
2. Being able to put begrudging (resentful) feelings aside when having a fight with a close companion.
3. When having a conflict with a close companion, really listening to his or her complaints and not trying to "read" his/her mind.

APPENDIX E:

Demographic Questions

What year were you born?

What gender identity do you most identify with?

- A. Female
- B. Male
- C. Transgender Female
- D. Transgender Male
- E. Gender non-conforming
- F. Other (please describe):
- G. Prefer not to answer

What is your race/ethnicity?

- A. African-American
- B. Hispanic
- C. Asian (including Indian)
- D. Native American
- E. Pacific Islander
- F. Middle Eastern
- G. White
- H. Bi-racial or Multi-racial
- H. Other (please describe):

What is your level of education?

- A. Less than high school degree
- B. High school graduate (high school diploma or equivalent including GED)
- C. Some college but no degree
- D. Associate degree in college (2-year)
- E. Bachelor's degree in college (4-year)
- F. Master's degree
- G. Doctoral degree
- H. Professional degree (JD, MD)

What is your field of work?

- A. Forestry, fishing, hunting or agriculture support
- B. Real estate or rental and leasing
- C. Mining
- D. Professional, scientific or technical services
- E. Utilities
- F. Management of companies or enterprises
- G. Construction

- H. Admin, support, waste management or remediation services
- I. Manufacturing
- J. Educational services
- K. Wholesale trade
- L. Health care or social assistance
- M. Retail trade
- N. Arts, entertainment or recreation
- O. Transportation or warehousing
- P. Accommodation or food services
- Q. Information
- R. Other services (except public administration)
- S. Finance or insurance
- T. Other (please specify): _____

How long have you worked at your current job?
 ____ years.

On average, how many hours do you work per week?
 ____ hours.

What gender identity do you most identify with?

- A. Woman
- B. Man
- C. Transgender Woman
- D. Transgender Man
- E. Gender non-conforming
- F. Other (please describe): _____
- G. Prefer not to answer

The following questions ask about your child(ren).

How many children do you have and that are currently living with you?

Repeat following for each child

What year was your first child born?

What gender was your first child assigned at birth?

- A. Female
- B. Male
- C. Intersex
- D. Other (please specify): _____
- E. Prefer not to answer

The following questions are about your romantic partner.

What year was your partner born?

What gender identity does your partner most identify with?

- A. Female
- B. Male
- C. Transgender Female
- D. Transgender Male
- E. Gender non-conforming
- F. Other (please describe):
- G. Prefer not to answer

What is your partner's race/ethnicity?

- A. African-American
- B. Hispanic
- C. Asian (including Indian)
- D. Native American
- E. Pacific Islander
- F. Middle Eastern
- G. White
- H. Bi-racial or Multi-racial
- I. Other

How long have you been in a relationship with your current partner?

_____.

APPENDIX F:

Need Satisfaction Measures

(1=Strongly Disagree, 7=Strongly Agree).

Need Satisfaction Through Work Role

Please rate your agreement with the following statements about how you have felt so far **at work** today.

1. At work, I felt part of a group.
2. At work, I could talk with people about things that really matter to me.
3. I don't really feel connected with other people at my job. (R)
4. I feel competent at my job.
5. I am really mastering my tasks at my job.
6. I am good at the things I do in my job.
7. At work, I often feel like I have to follow other people's commands. (R)
8. If I could choose, I would do things at work differently. (R)
9. The tasks I have to do at work are in line with what I really want to do.

(1=Strongly Disagree, 5=Strongly Agree).

Need Satisfaction Through Home Role

Please rate your agreement with the following statements about how you felt **at home** today.

1. I felt like a competent person at home.
2. I often felt inadequate or incompetent at home. (R)
3. I felt very capable and effective at home.
4. I felt loved and cared about at home.

5. I often felt a lot of distance in my relationships at home. (R)
6. I felt a lot of closeness and intimacy at home.
7. I had a say in what happened and could voice my opinion at home.
8. At home, I felt free to be who I am.
9. At home, I felt controlled and pressured to be certain ways. (R)

APPENDIX G:

Enrichment State Measures

Positive Affect

Please rate your agreement with the following statements about how you feel **this evening**.

(1=Very slightly or not at all, 5=Extremely).

1. Interested
2. Excited
3. Strong
4. Enthusiastic
5. Proud
6. Alert
7. Inspired
8. Determined
9. Attentive
10. Active

Perspective-taking

Please rate your agreement with the following statements about your relationship and interactions with your child(ren) **this evening**. (1=Strongly Disagree, 5=Strongly Agree).

1. I have difficulty seeing my child's viewpoint. (R)
2. When something affects my child, I feel it too.
3. I see myself in the same way my child sees me.

4. I understand my child's feelings quite well.
5. My child does things that I do not understand. (R)

Item 1 adapted to better refer to the present evening, from "I have difficulty seeing my child's viewpoint in an argument."

Vigor

The following statements are about how you feel at home this evening. Please read each statement carefully and decide if you feel this way in your home role **this evening**. (1=Not at all, 6=Extremely).

1. At home this evening, I feel bursting with energy.
2. At home this evening, I feel strong and vigorous.
3. This evening, I feel that I can continue in my family obligations for very long periods at a time.
4. At home this evening, I am very resilient, mentally.
5. At home this evening, I can persevere, even if things do not go well.

APPENDIX H:

Traditional Parenting Styles Measures

Please rate your agreement with how accurately each statement describes your feelings TODAY interacting with your child/children (1=Strongly Disagree, 5=Strongly Agree). Partner ratings will be adapted to refer to the focal participant's behaviors.

Authoritative Parenting

1. I was consistent with my discipline techniques.
2. I made clear rules for my child to follow.
3. I gave my child reasons for my directions.

Indulgent Parenting

1. I let my child express feelings about being punished or restricted.
2. I listened to reasons why my child might not want to do something that I ask them to do.
3. I encouraged my child to tell me what they were thinking.

Authoritarian Parenting

1. I confronted my child when they did not do as I say.
2. I punished my child for disobedience.
3. I was firm with my child.

Uninvolved Parenting

1. I let myself be talked out of things by my child.
2. I ignored my child's misbehavior.
3. My child nagged me into changing my mind.

Comprehensive General Parenting Questionnaire CGPQ Measures

Please read all statements carefully. Sometimes there may be questions you think are not applicable to your family or child. Please try to answer these questions to the best of your ability. At times, there may be questions you might think: “I would like to act this way, but in reality I did not do this”. Please answer these questions by indicating what you actually did. How much do you agree or disagree with the following statements about how you acted last evening? (1=Strongly Disagree, 5=Strongly Agree).

Nurturance - Responsiveness

1. I knew exactly how things were going for my child.
2. When my child was sad, I knew what was going on with him/her.
3. I felt good about the relationship I have with my child.
4. My child and I had warm affectionate moments together.
5. I knew exactly when my child had difficulty with something.

Nurturance – Autonomy Support

1. I encouraged my child to be curious, to explore, and to question things.
2. I trusted my child.
3. I respected my child’s opinion and encouraged him/her to express it.
4. I encouraged my child to be true to himself/herself.
5. I encouraged my child to express his/her opinions even when I did not agree with him/her.

Behavioral Control – Monitoring

1. I kept track of my child’s activities with friends.
2. I paid attention to where my child was.
3. I watched my child to make sure he/she behaved appropriately.

4. I was aware of what my child was doing when he/she was at home.

Behavioral Control – Maturity demands

1. I expected my child to follow our family rules.
2. I had clear expectations for how my child should behave.
3. I required my child to behave in certain ways.
4. I made sure that my child understood what I expected of him/her.
5. I taught my child to follow rules.

APPENDIX I:

Negative Affect, Work Stressor Exposure, Parenting Challenges Control Variables

Within-Person Level

Please rate your agreement with the following statements about how you felt in your organization **today**. (1=Strongly Disagree, 5=Strongly Agree).

Negative Affect

1. Afraid
2. Upset
3. Nervous
4. Scared
5. Distressed

Please rate your agreement with the following statements about how you felt in your organization **today**. (1=Strongly Disagree, 5=Strongly Agree).

Job Stressors

1. Today at work, I felt I was recognized for the work I do.
2. Today at work, it was hard for me to keep up with the workload.
3. Today it was difficult to balance my work and family demands.
4. Today, my job allowed me to use my skills and abilities.
5. Today, my work was important to the organization.
6. Today my co-workers treated me with respect and courtesy.

Parental Perception of Spousal Support

Please rate your agreement with the following statements about how you felt about things **today**.

(1=Always True, 4=Never True).

1. Today, you feel that when you partner is with [our child/children], they act like the father/mother you want for your child.
2. Today, you feel you can trust your partner to take good care of [child].
3. Today, your partner is respecting the schedules and rules you make for [child].
4. Today, your partner is supporting you in the way you want to raise [child].
5. Today, you and [father/mother] are talking about problems that come up with raising [child].
6. Today, you can count on [father/mother] for help when you need someone to look after [child] for a few hours.

Parenting Challenges

Please rate your agreement with the following statements about how you felt about things **today**.

(1=Strongly Disagree, 4=Strongly Agree).

1. Today, being a parent feels harder than I thought it would be.
2. Today, I feel trapped by my responsibilities as a parent.
3. Today, I find that taking care of my child[ren] is much more work than pleasure.
4. Today, I feel tired, worn out, or exhausted from raising a family.