

Research Article

Transmitting Intrinsic Value Priorities from Mothers to Adolescents: The Moderating Role of a Supportive Family Environment

Natasha Lekes,¹ Mireille Joussemet,² Richard Koestner,¹ Geneviève Taylor,¹ Nora H. Hope,¹ and Isabelle Gingras¹

¹Department of Psychology, McGill University, 1205 Dr. Penfield Avenue, Montreal, QC, Canada H3A 1B1

²Département de Psychologie, Université de Montréal C.P. 6128, Succursale Centre-Ville Montréal, QC, Canada H3C 3J7

Correspondence should be addressed to Natasha Lekes, natasha.lekes@mail.mcgill.ca

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This study tested the degree to which a need-supportive family environment influences adolescents' endorsement of the value priorities that their mothers wish for them. Mothers and their adolescents ($N = 280$) rated the importance of three intrinsic values (personal growth, close relationships, and community contribution) and three extrinsic values (wealth, fame, and attractiveness). Results revealed that mothers placed greater emphasis on intrinsic over extrinsic values than did adolescents. Furthermore, the congruence of mothers' and adolescents' emphasis on intrinsic values was moderated by the extent to which adolescents experienced satisfaction of their basic needs for autonomy, relatedness, and competence at home. Finally, the well-being of both adolescents and mothers was associated with the degree to which they prioritized intrinsic over extrinsic values. Implications for research on the transmission of values and goals are discussed.

1. Transmitting Intrinsic Value Priorities from Mothers to Adolescents

1.1. *The Moderating Role of a Supportive Family Environment.*

Parents have hopes and dreams for the directions that their children's lives will take and the long-term goals and values that they will choose to pursue. This is understandable given that the values that individuals prioritize are thought to influence their attitudes, emotions, and behavior [1], to transcend specific situations [2], and to persist over time, influencing their lives for years and decades [3]. Parents value both intrinsic and extrinsic life goals for their children. They may wish that when their children grow up, they will work towards improving their communities, develop close and satisfying relationships, and learn to know and accept themselves (intrinsic pursuits). They may also wish that their children will have high status careers, be financially successful, and have an image that others find appealing (extrinsic pursuits). The present study examines the congruence between adolescents' value priorities and those that their

mothers wish for them and tests whether the satisfaction of basic psychological needs within the family environment influences the transmission of such priorities.

Self-determination theory distinguishes values as either intrinsic or extrinsic [1]. Intrinsic values, such as striving to help others, are thought to be expressive of natural growth tendencies, whereas extrinsic, materialistic values, such as striving for popularity, depend on the contingent reaction of others and are typically engaged in as a means to an end. Researchers have confirmed the categorization of values into intrinsic and extrinsic pursuits, demonstrating that, across 15 countries, a focus on extrinsic values opposes a focus on intrinsic values [4]. The intrinsic/extrinsic distinction allows researchers to look at *centrality* [2], the idea that values are organized in a system where some are prioritized over others. Therefore, researchers have been able to study the degree to which individuals emphasize intrinsic over extrinsic values and how this relative focus relates to psychological health and social functioning.

A large body of research has demonstrated that prioritizing intrinsic values over extrinsic pursuits is associated with greater well-being as measured by self-report and clinical interviews of individuals' vitality, social functioning, depression, anxiety, and physical ailments (see [1] for a review). These findings have been replicated in different nations including Russia [5], Germany [6], and Korea [7]. Although the majority of this work has assessed adults, a few studies have demonstrated the association between value priorities and well-being with adolescent populations. At a key period in the development of values, researchers have shown that across western and eastern cultures, adolescents tend to experience greater well-being the more that they value intrinsic pursuits, such as personal growth, close relationships, and community contribution [8]. In contrast, when adolescents prioritize extrinsic relative to intrinsic pursuits, they tend to experience reduced well-being [9]. Moreover, P. Cohen and J. Cohen [10] showed that adolescents who prioritized extrinsic, materialistic pursuits were more likely to develop a mental disorder.

A person's value priorities may also have an impact on the well-being of others, yet this is not an area that has been studied. Given that people's value priorities relate to their well-being, it may be that they also relate to the well-being of close friends and family. For example, if an adolescent prioritizes intrinsic over extrinsic values and these are similar to his or her parent's value priorities, the parent may experience greater life satisfaction. Having a child focused on a healthy pattern of prioritizing intrinsic values may be associated with greater parental happiness. Whether adolescents' value priorities relate to their parents' well-being is an area worthy of exploration.

While substantial research has focused on the relationship between value priorities and well-being, fewer studies have sought to understand how intrinsic and extrinsic values develop. Yet the transmission of societal values from one generation to the next is considered an important aspect of life [11], and the process of internalizing values is often seen as a central goal of socialization (e.g., [12–14]). Parents may influence the values that adolescents adopt through the values that they endorse and model [15]. However, a review of the research on the similarities between adolescents' and parents' aspirations revealed mixed results, with some studies showing a significant degree of concordance but others not [16]. For example, Kasser and colleagues [17] found that mothers who prioritized financial success over intrinsic values tended to have adolescents with similar value configurations. In contrast, P. Cohen and J. Cohen [10] examined a range of values reflecting both intrinsic and extrinsic pursuits and found that there was generally little congruence between parents' and adolescents' priorities.

Differences in parents' and adolescents' intrinsic and extrinsic value priorities may be partly due to their different developmental stages. While some experiences, such as law school, may lead to a decreased focus on intrinsic values over time [18], young adults' values have been shown to become more intrinsically oriented over the four years of university [19]. Moreover, among a sample aged 17 to 82, older individuals' values tended to be more intrinsically oriented

[20]. Drawing on Rogers' [21] organismic valuing process and based on his research findings, Sheldon [19] argues that, unless faced with depriving or nonsupportive circumstances, when people's values change over time, they should naturally move in the direction of a healthier pattern of prioritizing intrinsic values.

The mixed findings on the congruence between parents' and adolescents' values may also indicate the presence of moderating factors. Self-determination theorists suggest that the internalization of values is a natural process, facilitated by the satisfaction of basic psychological needs [22–24]. Researchers have demonstrated that when adolescents experience satisfaction of needs for autonomy, competence, and relatedness in important life contexts, such as school, home, with friends, and in part-time jobs, they experience greater adjustment and well-being [25]. While a balance of need satisfaction in different life domains was found to be important, need satisfaction at home is likely to be specifically tied to the transmission of parental values.

The family plays an important role in the transmission of values [26, 27], and research with adolescents has provided some evidence that need-supportive parenting, in contrast to an authoritarian, controlling style, is associated with greater internalization of values. For example, Fuligni and Eccles [28] reported that parents' use of excessive controls was associated with less internalization of parental values. In contrast, an authoritative style, in which parents provide structure in a warm and democratic way, has been found to promote internalization [29]. Parental autonomy support has also been associated with the level with which immigrant and sojourning young people internalize the values and guidelines of both their heritage and host culture [30].

Research has examined the relation between need-supportive parenting and adolescents' endorsement of intrinsic or extrinsic values. When parents are more supportive of their children's needs, encouraging their initiative, and offering them choices, adolescents tend to prioritize intrinsic values such as improving their communities [8, 9]. In contrast, when parents are more controlling, punishing, and possessive, adolescents tend to place more importance on extrinsic, materialistic values such as financial success [10, 17] and less importance on intrinsic values, such as self-growth [31]. Though a consistent pattern seems to emerge from this literature, studies have not yet examined the role of the family environment on the transmission of value priorities.

Researchers have highlighted the distinction between *how* parents socialize their children and *what* they socialize [32, 33]. Importantly, the present study examines value contents or *what* parents hope to socialize in their adolescent children, as well as the family environment, which entails *how* parents socialize their adolescents. Thus, we measured the degree to which mothers hope that their children will adopt intrinsic versus extrinsic priorities over the course of their lives, and we also measured the degree to which adolescents feel that their needs for autonomy, relatedness, and competence are met within their family environment. Following Kasser et al. [17], we focus on parental aspirations for their children's values, which seem to be a more direct reflection of the value priorities that parents hope to

transmit. The present study is the first to examine the relationship between adolescents' and mothers' intrinsic versus extrinsic value priorities since Kasser et al.'s 1995 study of late adolescents. We sought to extend this work by looking at whether the degree of need satisfaction within the family moderates values transmission, as well as by studying a younger group of adolescents.

The present study was guided by three main sets of questions and hypotheses. First, in line with previous research, we expected both adolescents and their mothers to rate intrinsic values higher than extrinsic values. This would be reflected in a positive score for the values index which involves subtracting the mean rating of extrinsic values from the mean rating of intrinsic values. Following Sheldon and Kasser [20], we hypothesized that mothers' would prioritize intrinsic values for their children to a greater degree than adolescents prioritize intrinsic over extrinsic values.

The second set of hypotheses concerned the transmission of value priorities from mothers to adolescents. Based on previous research, we expected only a modest level of concordance between mothers' and adolescents' priorities. However, we hypothesized that the level of need satisfaction that teenagers experienced at home would moderate the relation of maternal to adolescent values. That is, we expected a greater relation between maternal and adolescent values when teenagers perceive their home environment as supporting their needs for autonomy, competence, and relatedness. We hypothesized a certain degree of context specificity to this moderator effect such that need satisfaction at school or with friends was not expected to influence the relation of adolescent values to the values their mothers hope to transmit.

The final set of hypotheses concerned the relation between value priorities and psychological health. Based on the large body of research linking values and well-being, we expected that a relative emphasis on adolescents' intrinsic rather than extrinsic values would be associated with greater adolescent well-being. Similarly, we expected that the degree to which mothers valued intrinsic above extrinsic pursuits for their adolescents would be associated with greater maternal well-being. Furthermore, this study is unique in that we also examined whether the putative healthy pattern of prioritizing intrinsic above extrinsic values was related to the well-being of other family members. Precisely, we explored whether adolescents' focus on intrinsic values would contribute to mothers' well-being, as this emphasis would correspond to mothers' socialization goals.

2. Method

2.1. Participants and Procedure. A cross-sectional study was conducted with 140 mother-adolescent dyads. (The sample is drawn from a larger sample that was used to examine the life goals of Chinese and North American adolescents. There is no overlap in the statistical analyses examined in the present study with those reported in Lokes et al. [8].) Two high schools in Canada and the United States participated. Our sample comprised students between 11 and 17, with a mean age of 14.37 years. Approximately half of the students were female (50.6%). Students participated voluntarily and con-

fidentially, completing the questionnaire during class time. When parents gave permission for their child's participation, they also completed a brief package of surveys. Since only 37 fathers completed surveys, the present study focused exclusively on mothers. The mean age of mothers was 46.39, and the majority had completed postsecondary education, 22% ending at a two-year college degree, 46% at a university degree, and 23% completing graduate studies.

2.2. Measures

2.2.1. Adolescent Values. An adaptation of the aspiration index [34] was used to measure adolescents' values. Participants responded to twelve statements in which they rated the importance of values on a scale of 1 (not at all) to 5 (very much). Intrinsic values were community contribution (e.g., "to work for the betterment of society"), close relationships (e.g., "to have committed, intimate relationships"), and personal growth (e.g., "to grow and learn new things"). Extrinsic values were wealth (e.g., to be financially successful), fame (e.g., "to have your name appear frequently in the media"), and attractiveness (e.g., "to have an image that others find appealing"). There were two items for each of the three intrinsic and extrinsic values. Summary measures of intrinsic and extrinsic values were formed by calculating the mean of six ratings. The Aspiration Index has been widely used, demonstrating good reliability and validity [4]. In the present sample, the Cronbach's alphas for the intrinsic and extrinsic scales were above .80.

2.2.2. Mothers' Values for Their Children. Parents completed a parallel version of the Aspiration Index [34], in which they rated how important it is for them that their adolescents achieve each of the intrinsic and extrinsic pursuits. Specifically, they were asked about the long-term aspirations that they hope their child will accomplish over the course of their lives. As for the adolescents, we calculated summary measures of intrinsic and extrinsic values, and the reliability of these scales was good, with alphas above .80.

2.2.3. Adolescent Need Satisfaction. We assessed need satisfaction using the Children's Intrinsic Need Satisfaction Scale [35]. This scale consists of 18 items that assess adolescents' autonomy, relatedness, and competence across three contexts: at home (e.g., "I feel I have a choice about when and how to do my household chores"), at school (e.g., "My teachers like me and care about me"), and with friends (e.g., "I feel my friends think that I am good at things"). Responses were made on a 5-point scale, ranging from 1 (*not at all true*) to 5 (*very true*). The reliability for these scales was above .75.

2.2.4. Adolescent Well-Being. Measures of positive and negative affect [36] and of self-concept [37] were used to assess well-being in adolescents. For positive and negative affect, respondents indicated on a scale from 1 (slightly or not at all) to 5 (extremely), the extent to which they have recently felt a series of four positive feelings (joyful, enjoyment/fun,

TABLE 1: Adolescent and mother ratings of value priorities and well-being: means and correlations.

	<i>M</i>	<i>Sd</i>	(1)	(2)	(3)
(1) Adolescent intrinsic values index	1.10	0.98	—		
(2) Adolescent well-being	0.00	1.00	.17*	—	
(3) Mother intrinsic values index	2.07	0.70	-.03	-.01	—
(4) Mother well-being	0.00	1.00	.18*	.14	25*

* $P < .05$.

pleased, happy) and six negative feelings (unhappy, worried/anxious, depressed, angry/hostile, frustrated, stressed). The scales have excellent temporal reliability and internal consistency [38]. Means for positive and negative affect were calculated separately. The Cronbach's alphas for these scales were greater than .80.

For self-concept, respondents rated the extent to which they agreed or disagreed with six statements about themselves (e.g., "I like myself just the way I am," "I have a lot of good qualities"). Statements were rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). To obtain a global score, the mean of the six items was calculated. The Cronbach's alpha for this scale was .83. A summary index was calculated as the mean of self-concept, positive affect, and negative affect (reversed). All measures were standardized before the mean was calculated. The creation of a global index was used because the three scales were highly related (r 's $> .40$) and because our predictions were framed in terms of general well-being.

2.2.5. Mother Well-Being. Life satisfaction [39] and positive and negative affect [36] were used to assess well-being in mothers. The life satisfaction scale consisted of five items that tap a global cognitive assessment of one's life. Researchers have demonstrated that this is a valid and reliable measure of life satisfaction, suitable for diverse age groups and applications [40]. In the present study, the Cronbach's alpha for this scale is .89. Positive and negative affect was assessed with the same scales used for adolescents. The Cronbach's alphas were .86 and .79 respectively. Since we were interested in general well-being and the three scales were highly correlated (r 's $> .40$), we created a summary index of mother well-being, calculated as the mean of life satisfaction, positive affect, and negative affect (reversed). All measures were standardized before the mean was calculated.

3. Results

3.1. The Congruence of Mother and Adolescent Value Priorities. Given that extrinsic values have been found to be detrimental when they are strongly pursued, above more intrinsic pursuits [1], we were interested in the relationship between well-being and focusing on intrinsic values relative to extrinsic values. Following the methodology of Sheldon and Kasser [20, 41, 42], we calculated an index of intrinsic relative to extrinsic values by subtracting the mean extrinsic rating from the mean intrinsic rating. This intrinsic values index was used in the subsequent analyses.

The correlations and means for the well-being and intrinsic values indices are presented in Table 1. Following previous studies (see [1] for a review), we found that our participants (both adolescents and their mothers) rated intrinsic values higher than the extrinsic pursuits. The positive scores on the values indices indicate that both mothers and adolescents rated intrinsic values (community contribution, close relationships, and personal growth) more highly than extrinsic values (wealth, fame, attractiveness). Confirming our first hypothesis, the differential between intrinsic and extrinsic values was significantly greater for mothers ($M = 2.07$) than for adolescents ($M = 1.10$), $t(139) = 10.06$, $P < .0001$. This finding indicates that mothers endorsed a healthier pattern of values than their children, placing more importance on intrinsic values than did the adolescents.

3.2. Need Support at Home as a Moderator of Mother-Adolescent Value Congruence. The central purpose of this study was to understand the transmission of a healthy pattern of values in which intrinsic pursuits are prioritized above extrinsic pursuits. To test our second set of hypotheses, that mothers and their children would have similar value configurations when adolescents experienced psychological need satisfaction in the family environment, but not in other contexts (at school, with friends), we conducted a hierarchical multiple regression analysis. Adolescent intrinsic values index was regressed on child's gender and age (in a first step), mothers' intrinsic values index (in a second step), adolescents' need satisfaction in family, school, and friend contexts (in a third step), and finally the interaction of the mothers' values index with each of the three need satisfaction measures (in a fourth step). The regression yielded a significant multiple R of .38, $F(9, 130) = 3.12$, $P < .01$. Table 2 shows the standardized regression coefficients (betas) for all predictors. It can be seen that adolescents' gender was significantly related to their emphasis on intrinsic rather than extrinsic values. Congruent with previous research [43], girls reported a relatively greater emphasis on intrinsic values ($M = 1.31$) than boys ($M = 0.88$). A significant mother values index by need satisfaction at home interaction effect was also obtained. As expected, there was no moderator effect obtained for need satisfaction at school or with friends.

Figure 1 depicts how need satisfaction at home moderated the relation of mothers' value priorities to adolescents' values [44]. For adolescents who experienced high need satisfaction at home, mothers' values for their children were significantly positively related to adolescents' values, $t = 2.87$, $P < .01$. In contrast, there was no relation between

TABLE 2: Regression analysis of adolescent intrinsic values index by mother index and need satisfaction measures.

	β	t -test
(1) Adolescent gender	-.23	-2.80*
(2) Adolescent age	.02	0.27
(3) Mother intrinsic values index	.11	1.07
(4) Adolescent need satisfaction home	.13	1.35
(5) Adolescent need satisfaction school	.06	0.73
(6) Adolescent need satisfaction friends	-.04	-0.58
(7) Mother index X home need satisfaction	.25	2.91*
(8) mother index X school need satisfaction	.01	0.13
(9) Mother index X friend need satisfaction	.08	1.01

mothers' value priorities for their children and adolescents' values when adolescents experienced low need satisfaction at home, $t = -0.60$. This pattern of results suggests that need satisfaction within the family context serves to moderate the relation between parents' and adolescents' intrinsic versus extrinsic values.

3.3. The Relationship between Values and Well-Being. Our third set of hypotheses was based on a substantial body of research (see [1] for a review) linking value priorities and well-being. We conducted two separate regression analyses with adolescent and mother well-being as the dependent variables. In each regression, the dependent variable was regressed on mother intrinsic values index and adolescent intrinsic values index. (Adolescent age and gender were unrelated to both well-being measures.) The regression for adolescent well-being revealed a significant effect for adolescent values, $\beta = .18$, $t(137) = 2.09$, $P < .05$ but no effect for mother-rated values. As expected, adolescents who rated intrinsic values relatively higher than extrinsic values reported greater well-being. The regression for mothers' well-being revealed significant effects for the intrinsic values index of both mothers ($\beta = .23$, $t = 2.75$, $P < .01$) and adolescents ($\beta = .17$, $t = 2.00$, $P < .05$). Mothers reported greater well-being when they placed greater priority on intrinsic values for their children and when their children themselves placed greater priority on intrinsic values.

4. Discussion

The present study examined the relationship between the values that parents hope to instill in their children and those that adolescents adopt. Self-determination theorists have distinguished values as either intrinsic, reflecting natural growth tendencies, or as extrinsic, materialistic pursuits that are dependent on the reaction of others [1, 22]. Replicating previous research, we found that adolescent well-being was associated with valuing intrinsic relative to extrinsic pursuits. In addition, mothers' well-being was related to the degree that they prioritized intrinsic values for their adolescents and to the degree that adolescents prioritized intrinsic values for themselves. The results further revealed three interesting findings concerning the relationship between mother and

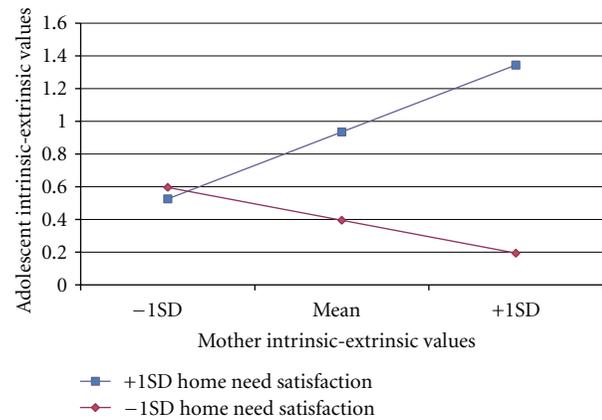


FIGURE 1: Adolescent intrinsic values index by mother index and need satisfaction at home.

adolescent ratings of values. First, we found that mothers prioritized intrinsic over extrinsic values to a greater extent than adolescents. Second, an examination of mother and adolescent value priorities revealed only a marginally significant positive relation between these measures. Third, the degree of need satisfaction that adolescents experienced at home moderated the mother-adolescent congruence in intrinsic relative to extrinsic values. These findings are discussed below.

Transmitting a healthy pattern of prioritizing intrinsic above extrinsic values has implications for adolescents' well-being. Replicating two previous studies that used the Aspiration Index with participants spanning early to late adolescence [9, 45], our results showed that a relative emphasis on intrinsic above extrinsic values was significantly positively related to adolescents' well-being. Commitment to valued goals is viewed as helping young people to transition smoothly from adolescence into adulthood [46, 47]. Our findings suggest that the degree to which values are beneficial for adolescents depends on whether their pursuits are intrinsically or extrinsically oriented. When adolescents prioritized their self-growth, contributing to their communities, and developing close relationships, over being popular, wealthy, and attractive, they were more likely to experience enhanced well-being. As Kasser [1] explains, extrinsic values become

unhealthy when they are strongly pursued, at the expense of other more intrinsic values.

In addition to the relationship between adolescents' values and well-being, two intriguing findings emerged regarding mothers' well-being. Our results showed that the more mothers prioritized intrinsic above extrinsic pursuits for their adolescents, the greater their own well-being, measured in terms of life satisfaction and positive and negative affect. Furthermore, adolescents' relative emphasis on intrinsic values was also significantly related to their mothers' level of well-being, contributing a significant additional portion of variance. Studies examining parenting strategies, adolescent values, and well-being [8, 9, 17] have assessed adolescents' well-being, but not the psychological health of their parents. Given that parenting an adolescent can be a stressful experience, our findings may have implications for parents' well-being.

The more that mothers emphasized values such as community involvement, over pursuits such as popularity and the more that their adolescents prioritized such intrinsic values, the more they experienced satisfaction with their lives and positive affect. As values that depend on the contingent reaction of others [1], prioritizing extrinsic over intrinsic values for their children may be associated with diminished life satisfaction and more negative effect because the attainment of these life goals, unlike intrinsic pursuits, is less in an adolescent's or a parent's control. Whether an individual gains high status is more unpredictable than succeeding at helping people in their community because gaining status requires the response of others. This may lead parents to feel more pressure and stress regarding the direction of their children's lives.

The more that adolescents emphasized intrinsic values over extrinsic ones, the more their mothers experienced well-being. Perhaps this reflects satisfaction mothers experience when children adopt the healthy value pattern they hope to instill. Alternatively, it is also possible that parents' well-being is related to adolescents' values because adolescents who prioritize extrinsic over intrinsic values tend to be less happy themselves and tend to have more behavioural problems [9]. Finally, it is possible that the direction of the relationship between adolescents' prioritization of intrinsic values and maternal well-being goes in the opposite direction, with higher maternal well-being leading to heightened internalization of intrinsic values in their children. While parental stress is linked to controlling parenting [48], optimal parenting is facilitated by parental well-being [49] and leads to children's internalization (29, 30) as well as prioritization of intrinsic values [1]. More research is needed to understand the relationship between parents' well-being and adolescents' value priorities.

Given that the priority that individuals place on different types of values has implications for their well-being, the purpose of the present study was to examine the development of values, specifically the intergenerational transmission of intrinsically oriented values. To begin, we were interested in whether mothers and their adolescents would differ in how they rated intrinsic and extrinsic values. In line with previous research [43], we found that overall both mothers and their

adolescents rated intrinsic values higher than extrinsic values. Interestingly, we also found that mothers emphasized intrinsic over extrinsic life values more than their adolescents did. Thus, adolescents rated materialistic pursuits such as wealth, fame, and image higher and intrinsic pursuits such as close relationships, community contribution, and self-growth lower than the goals that their mothers had for them. This finding may reflect the influence of growing older on values. In line with Carl Rogers' [21] concept of an organismic valuing process, researchers have found that values tend to become more intrinsic and less extrinsic as individuals mature [19, 20]. It is also possible that adolescents are more influenced by the prevalence of media messages extolling extrinsic values. The media have increasingly targeted adolescents as their audience [50] and advertising may shape their values by conveying the message that materialism leads to happiness [51].

Previous researchers looking at the similarity in the goals and values of adolescents and their parents have reported mixed results (see [16] for a review). Kasser et al. [17] found that the degree to which 18-year olds prioritized financial success over intrinsic values was similar to the value priorities that their mothers hoped to transmit. When we examined the congruence of adolescent values and the values that their mothers hoped they would internalize, we found only a marginally positive correlation between mothers and adolescents values. The lack of a consistent relationship between parental and child values points to the potential role of moderating variables. The present study is unique in that we examined the influence of a need-supportive family environment on the transmission of values between mothers and adolescents.

According to self-determination theorists, autonomy-supportive parenting practices focused on encouraging children's initiative, and supporting their needs is key to greater internalization of values [30, 52] as well as the development of intrinsic, rather than extrinsic, values [8, 9, 17]. While being with family, with friends, and at school are three important social contexts for adolescents and need support in each of these areas is important for their adjustment [25], we found, as expected, that only need satisfaction within the home influenced the degree to which mothers' and adolescents' value priorities were similar. It may be that need satisfaction from peers and teachers moderates the extent to which adolescents internalize the value priorities held by these important others. Further research is needed to confirm context specificity in the relation between need support and self-other value concordance. In support of the research linking parenting styles and the internalization of values, adolescents who reported that their needs for autonomy, relatedness, and competence were highly satisfied in the family environment showed significant correspondence with their mothers in how they rated intrinsic versus extrinsic values. In contrast, adolescents who experienced little need satisfaction with their families displayed intrinsic and extrinsic values that bore no discernable relationship to the pursuits that their mothers espoused for them.

Values' theorists have emphasized that values are organized in a circumplex structure, where certain values oppose others and that, when studying values, it is important to

look at the centrality of values [1, 2, 53]. In line with this theoretical framework, we examined the degree to which intrinsic values are prioritized over extrinsic values. Given that mothers tended to value intrinsic over extrinsic pursuits for their adolescents, our findings imply that adolescents are more likely to adopt this healthy balance of values when their home environment has satisfied their basic psychological needs. However, there may be different socialization processes that lead to the adoption of intrinsic versus extrinsic values. For example, researchers have found that materialism is associated with socioeconomic disadvantages, suggesting that a lack of security leads to extrinsic value priorities [1, 54]. There has been more focus on the causes of extrinsic, materialistic values, and the development of intrinsic versus extrinsic values is an area of research that requires further study.

The present study was limited in several ways. First, we examined the relationship between parents' and adolescents' values in a cross-sectional design, and we cannot make causal inferences on the direction of this relationship. Although we examined the congruency of mothers' and adolescents' values as a means of understanding the transmission of values from one generation to the next, children may also influence the goals that their parents adopt for them. For example, parents and adolescents may model materialistic values and behaviours for each other. Goldberg et al. [55] found that more materialistic early adolescents tend to have parents who are highly materialistic and that highly materialistic youth are more likely to pressure their parents to purchase products for them. Future research using experimental and longitudinal designs is necessary to better understand the development of values.

Second, we only examined the influence of mothers on the values that young people adopt. As another primary relationship in the lives of adolescents, fathers are an important model of life goals and values. Although we expect that all family members would influence an adolescent's need satisfaction in the home, we did not assess the values that fathers hope their children will internalize. It would be interesting to test our results with fathers' ratings of the intrinsic and extrinsic values that they hope for their adolescents. Peers and the media have further been identified as important influences on young people's values and life goals. Thus, future research would benefit from exploring several influences on adolescents' intrinsic value priorities.

Third, we did not assess the reasons that parents develop intrinsic and extrinsic values for their children. Given that materialism has been linked to insecurity [56], self-doubt [57], and low self-worth [58], parents may emphasize more extrinsic pursuits, such as wealth and fame, when they feel less secure and have lower self-esteem. Given the connection between values and basic psychological needs [22], they may prioritize extrinsic over intrinsic pursuits when their needs for autonomy, relatedness, and competence have not been met. It may also be that mothers who believe more deeply in the importance of close relationships, community contribution, and self-growth over wealth, appearance, and status are less pressuring of their children and more accepting their authentic selves. In contrast, mothers who tend to prioritize

extrinsic pursuits may be influenced by societal messages that an individual's worth depends on status and appearance, and they may want their children to achieve materialistic goals, as a reflection on their own worth. Indeed, studies on ego-involvement have shown that parents can hinge their own self-worth on their child's performance, leading them to act in a need-thwarting way [59]. Future research is needed to examine the reasons that parents hope their children will prioritize either intrinsic or extrinsic values.

Fourth, the present study did not assess mothers' values for their own lives. Although we would expect that mothers' values would be similar to the values they espouse for their children, it would be interesting to explore the differences between them. For example, it may be that mothers tend to hold more intrinsic or extrinsic values for their children than they do for themselves. It would also have been interesting to assess adolescent perceptions of the values that their parents hold and the values they espouse for their children. It is possible that there may be subtle differences among these various indicators of values and that such differences would bear upon well-being outcomes.

In conclusion, this study extended research examining parents' influence on the development of adolescent values in several ways. We examined mothers' values for their children and the family environment, looking at both *what* parents try to socialize and *how* they socialize their children. Only a marginally positive relationship was obtained between maternal and adolescent values. However, the satisfaction of basic needs within the home was found to moderate the mother-adolescent congruence in prioritizing intrinsic over extrinsic values. Importantly, this indicates one way in which parents may transmit values to their children. Finally, we looked at the well-being of both adolescents and their mothers. Given that we found that placing importance on intrinsic over extrinsic values is related to the well-being of adolescents and their mothers, further understanding the transmission of intrinsic value priorities between parents and adolescents is an important area of study.

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