

EXAMINING AUTONOMY SUPPORT, RELATEDNESS, AND DECISION MAKING
DURING ADOLESCENCE IN A DIVERSE U.S. SAMPLE

BY

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DISSERTATION

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Abstract

The current study explored associations between and patterns of autonomy, relatedness, and adolescent decision making in a diverse sample of families within the United States. Data were from the Pathways Project (Proyecto Caminos), a large-scale study of adolescent development. Dyadic cross-sectional data from the first time point of the study were used, which included 232 parents and one of their children aged 13-18 years (58% female). Parents and adolescents completed mirrored measures of their perception of parent autonomy support (e.g., consider things from child's point of view) and attitudes on family relatedness/interdependence (e.g., consult with parent(s) before making important decisions). Youth reported on decision making as a measure of behavioral autonomy (a spectrum from decisions being made completely by the child's parent to a child making decisions completely on his/her own). Results from variable-centered analyses (hierarchical regression) revealed that child age and youth report of parental autonomy support were associated with higher levels of youth-led decision making, and youth report of family relatedness was associated with lower levels of youth-led decision making. Results from exploratory person-centered analyses (hierarchical clustering) identified three profiles that varied on parent and/or child reports of parental autonomy support and relatedness. K-means clustering was used to verify these results and found sufficient overlap (82%) between the two methods to confirm the hierarchical cluster results. The profiles identified appear to reflect profiles of autonomy-relatedness proposed by theorists (e.g., Kağıtçıbaşı, 2005). Based on child reports, Cluster 1 had high levels of both autonomy support and relatedness, Cluster 2 had low autonomy support and moderate relatedness, and Cluster 3 had moderate autonomy support and low relatedness; in addition, Clusters 1 and 3 both reported higher levels of youth decision making than Cluster 2. Taken together, findings contribute to the

understanding of the associations and patterns of autonomy support and relatedness within a diverse U.S. sample, as well as how different methodologies can be utilized to explore these issues. Implications for further research are discussed.

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Chapter One: Introduction

In most cultures, adolescence is viewed as a developmental period when youth begin to develop more autonomy within their family systems. Within families, decisions regarding a variety of issues and domains are typically negotiated between parents and children. This process of “autonomy granting” or “independence giving” is normatively viewed as being a parent-controlled process where parents, who initially held all the say in decision making, transfer some or all of the decision making to their developing child (Romich, Lundberg, & Tsang, 2009). Despite this widespread recognition of adolescence as a period of increased gains in autonomy for children, there has not been a consensus for the conceptualizations and definitions of *autonomy*, which have led to an unclear understanding of the various ways parents may socialize their children to become independent in their decision making.

In the fields of developmental and cross-cultural psychology, adolescent autonomy is defined as *independence* (Markus & Kitayama, 1991). This independence refers to the extent an adolescent acts or decides on matters without input from others (parents in particular). In contrast to independence is *reliance on others* (especially parents), which refers to the degree that adolescents are *dependent on others*. Adolescent autonomy has often been operationalized as adolescent *independence* through their levels of decision making regarding a variety of daily tasks or issues without parental input (e.g., what clothes to wear, how to spend money, who they associate with) (Smetana, Campione-Barr, & Daddis, 2004; Van Petegem, Vansteenkiste, & Beyers, 2013). These studies view decision making as a process that ranges on a spectrum from a child making decisions completely on his/her own (total independence) to decisions being made completely by his/her parent(s) (total dependence).

Other perspectives examine and conceptualize adolescent autonomy not as merely independence, but rather as the behaviors that are executed through a sense of volition that truly

represents a youth's self-interests and beliefs (Deci & Ryan, 2000). As opposed to autonomy manifesting itself as the separation from parents (both physically and emotionally), autonomous functioning during adolescence is viewed as children executing behaviors based upon their own personal beliefs and interests. With this alternative conceptualization, researchers have begun to view autonomy support as a promotion of volitional functioning rather than independence. For example, a study of Belgian and Greek adolescents found that some forms of parental autonomy support are associated with youth autonomy/decision making (Fousiani, Van Petegem, Soenens, Vansteenkiste, & Chen, 2014). In addition, the researchers reported differences in mean levels of key factors such as autonomy support and decision making based on age, gender, and country.

Recent theoretical developments have also brought in the importance and changing ways in which autonomy is associated with and/or interacts with factors such as family relatedness. Many Western perspectives (e.g., psychoanalytic theory) have held the view that youth autonomy and family relatedness were opposing forces, reflecting youths' natural progression towards independence from others as they grow older. Recent theoretical perspectives, however, have questioned these assertions. New theoretical models and perspectives no longer necessarily view the two as opposing constructs. For example, self-determination theory recognizes autonomy and relatedness to both be basic needs and independent constructs (Ryan & Deci, 2000). Others have proposed that autonomy and relatedness are not only independent constructs but that they are also compatible (Kağıtçıbaşı, 2005). Scholars like Kağıtçıbaşı have developed frameworks that propose different orientations based on independent levels of autonomy (A) and relatedness (R), which allows for a variety of orientations based on the degree to which individuals endorse the independent constructs of A-R. These recent developments in the conceptualization of autonomy and relatedness require a reexamination of how these constructs

are associated with decision making, a key process that has been central in the study of the development during adolescence.

In order to address these gaps in the literature, this study used framework that conceptualizes autonomy support as promotion of volitional functioning (instead of independence). In addition, this study also addressed how the attitudes for autonomy support and relatedness within families are associated with actual autonomous behavior (decision making). Recent scholarship has also proposed that autonomy and relatedness are compatible constructs, and this study also examines if profiles of autonomy support and relatedness endorsement confirm this proposition. Previous studies examining these issues have also typically been cross-cultural or conducted with homogenous samples using only single-report data, and another significant contribution from this study is the examination of the associations of autonomy (as volition), relatedness, and behavioral autonomy (decision making) in a sample that contains diverse parent-adolescent dyads from the U.S.

Chapter Two: Review of the Literature

Autonomy is an important psychosocial issue that individuals and families deal with across the entire lifecycle. During adolescence, issues of autonomy surface in ways that are unique from other life periods and stages. Many psychological perspectives recognize that adolescence is an important period where changes in autonomy are expected as young people transition from childhood into adulthood. Becoming an autonomous individual is often viewed as a fundamental developmental task during adolescence (Steinberg, 2013), yet what it means to be autonomous has been a contentious issue across several decades of psychological research. In this review of the literature, the salient constructs associated with the issue of autonomy such as autonomy, relatedness, and decision making are examined. The review examined how these constructs have been conceptualized through past literature, research, and theoretical perspectives to shape this current study's conceptual framework.

Theories of Autonomy

Autonomy as separation-individuation. According to the separation-individuation perspective, autonomy is defined as when adolescents physically and emotionally separate themselves from their parents and take on more responsibilities for themselves without relying on their parents (Blos, 1979; Kroger, 1998; Levy-Warren, 1999). This development of separation and individuation was thought to be associated with more independent functioning behaviorally, cognitively, and emotionally (Collins, Gleason, & Sesma, 1997). The contrast to separation-individuation would be dependence on parents for decision making, as well as emotional and physical closeness to and reliance on parents.

It has been hypothesized that the normative development of separation-individuation and the associated increases in autonomy would be associated with positive outcomes (Steinberg,

2013). For example, a study with 601 middle adolescents from a Dutch-speaking area of Belgium found that individuation (development of independence and less reliance on parents) had a positive relation to adjustment in college (Beyers & Goossens, 2003). Cross-cultural studies have found similar results. For example, a longitudinal cross-cultural study with 374 American and 451 Chinese seventh graders found that decision making autonomy at the beginning of adolescence was positively associated with emotional functioning 2 years later for both American and Chinese adolescents, although the authors noted that this association was stronger for American children (Qin, Pomerantz, & Wang, 2009).

There have been studies showing that certain forms of separation-individuation can have detrimental effects, however. For example, a study by Beyers & Goossens (1999) of 558 Dutch-speaking Belgium adolescent boys and girls revealed that the emotional separation process was associated with negative outcomes for adolescent psychosocial adjustment (e.g., more internal distress, lower school grades, more deviant behavior). Another study conducted with 148 American adolescents showed that the emotional separation process was associated with increased insecurity towards parents (Ryan & Lynch, 1989). In contrast, a study of 815 older adolescents and emerging adults found no relation or a negative relation between emotional independence and adjustment in college (e.g., academic, social, personal-emotional) (Lopez, Campbell, & Watkins, 1988).

In addition to the general study of autonomy development during adolescents, scholars have conducted cross-cultural studies to examine this process across many different countries and cultures. These cross-cultural studies are based upon perspectives that draw on differences in cultural orientations (e.g., individualism, collectivism) to explain variances in autonomy within families.

Cross-cultural views of autonomy. Researchers in both anthropological and psychological traditions posit that Western cultures promote goals that endorse autonomy, and non-Western (collectivist) cultures support developmental goals that are oriented around maintaining relationships, particularly in regards to family relationships (Harwood, Schoelmerich, Schulze, & Gonzalez, 1999). The belief that autonomy and relatedness are opposing constructs has been partly influenced by Western-centric adherence to individualism and the psychoanalytic perspective that separation from parents (decreased relatedness) is a developmental milestone towards the goal of individuation, especially during the developmental stage of adolescence (Steinberg & Silverberg, 1986). Some cross-cultural scholars have generalized that Western cultures uniformly endorse individualism, and this is typically used to present collectivist cultures as endorsing collectivism on the other end of the spectrum. Within this framework, social scientists have therefore made assumptions that Western societies naturally endorse individualism and that non-Western societies naturally support goals of relatedness and interdependence. As an end result, European Americans have prominently been portrayed as the most individualistic and autonomous, and cultures such as Japan are the opposite by supporting goals of collectivism and relatedness (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). These positions regarding individualism and collectivism have become a standard framework in the study the autonomy and relatedness orientations of individuals in many cross-cultural studies (Oyserman, Coon, & Kemmelmeier, 2002).

Within the field of cross-cultural psychology, the explanation for differences in autonomy is often attributed to individualist and collectivist orientations that are associated with societies and cultures. In a study examining the autonomy expectations of 124 mother-adolescent child dyads from an international school in Hong Kong, Caucasian participants (from the United

States, Canada, Australia, European nations) had expectations for autonomy at earlier ages than Asian participants (Chinese, Korean, Japanese, Filipino, Indian, Pakistani) (Stewart, Bond, Deeds, & Chung, 1999). Other studies have found that European American parents often value adolescent development of autonomous behavior and attitudes, and parents from collectivist cultures value and socialize their youth towards relatedness through maintenance of relationships with parents (e.g., obeying parents and not exerting independence) (Fuligni, Tseng, & Lam, 1999). In sum, this perspective attributes differences in autonomy and relatedness mainly due to general cultural orientations towards individualism and collectivism, which often treats the constructs of autonomy and relatedness as opposing of one another. These cross-cultural studies have provided a great deal of insight on similarities and differences in autonomy across a variety of cultures. However, a significant amount of this work has defined autonomy only as independence, and other perspectives have emerged that propose autonomy be viewed instead as volition.

Autonomy as volition. Researchers have proposed that striving for independence may not be the only measure or method of achieving autonomy (Hill & Holmbeck, 1986). Instead, autonomy development was to be defined as the process of self-governance and could occur in conjunction with supportive relationships with parents and maintenance of physical and emotional ties. This view strays away from the previous conventional thinking that that mere independence itself was the central tenet or perhaps even synonymous with autonomy itself, and autonomy development should be within the context supportive and involved parents (Grotevant & Cooper, 1986).

An alternative view on autonomy comes from Self-Determination Theory (SDT). SDT asserts that there are three basic needs that are universal for all individuals and cultures:

autonomy, relatedness, and competence (Ryan, Deci, & Grolnick, 1995). Researchers who adhere to the SDT perspective define and operationalize autonomy as volitional or self-endorsed functioning (Ryan & Deci, 2000; Vansteenkiste, Soenens, & Niemiec, 2010). Self-endorsed functioning is the extent to which one willingly engages in actions and fully endorses the importance of those actions. Individuals act in accord with their authentic interests and personal values. In the SDT perspective, dependence is not an opposing construct to autonomy. Instead, the opposite of autonomy is *heteronomy*, which is a sense of controlled or pressured functioning where one is coerced or forced to think, act, or feel in a prescribed way that does not represent one's values or interests (Chirkov, Ryan, Kim, & Kaplan, 2003).

Within this SDT perspective, feeling a sense of autonomy and agency in one's choices and actions is necessary for an individual's adjustment and functioning. A review by Ryan & Deci (2002) shows much support for this association between sense of autonomy/choice and positive behavioral and psychological outcomes. For example, a study with 271 high school students from 9th- through 12th-grade found that their perception of their parents' volitional autonomy support was associated with lower levels of risk behaviors (e.g., risky sex behaviors, drug use) (Williams, Cox, Hedberg, & Deci, 2000). Additional research reveals that self-determined functioning often exists and is fostered within supportive families where autonomy is promoted but not coerced and/or forced. For example, a study with 328 Dutch-speaking adolescents in Belgium found that autonomy support as conceptualized through the SDT perspective (vs. independence or detachment) is positively associated with positive outcomes such as grade point average (Soenens & Vansteenkiste, 2005).

The distinction between volition and independence is central to the SDT framework, as researchers have argued that independence without volition is not truly autonomy (Van Petegem

et al., 2013). An adolescent who is acting independently based on his/her own beliefs or values has chosen to be independent and is exercising autonomy according to SDT. In contrast, there may be situations where adolescents are engaging in independent behaviors but not under their own values or beliefs, which is referred to as controlled independence. Controlled independence may take the form of rebellion and defiance, or there may be times when youth do not want to make independent decisions but must do so due to neglectful or permissive parents. On that note, it is also possible that adolescents may want to rely upon parental advice or even leave the decision to their parents, because they personally endorse the input and parental guidance (self-endorsed dependence). Adolescents may also take the parents' opinion into account because they would feel guilty or ashamed for not being loyal to their parents (controlled dependence). SDT scholars such as Deci and Ryan (2000) posit that autonomy that is self-endorsed and volitional is most beneficial for adolescents, and subsequent work using this framework appears to support this position (Van Petegem et al., 2013).

This reconceptualization of autonomy as volition has been increasingly utilized in theories and research such as that in the aforementioned field of cross-cultural psychology. For example, the work of Kağıtçıbaşı (2005) that examines the dual constructs of autonomy and relatedness in families has incorporated this view of autonomy as volition rather than purely independence. This current study also employed this conceptualization to examine how parental socialization of autonomy (support) is both associated and configured with related constructs such as family relatedness and decision making.

Parental Autonomy Support

Promotion of independence. The various ways autonomy has been conceptualized (e.g., as independence-separation, cross-culturally, as volition) inform us on how autonomy support

can be defined, each with its distinct emphasis. One way autonomy support has been defined is as parental endorsement of their children's independent expression, thinking, and decision making (Steinberg, 2013; Steinberg & Silk, 2002). This perspective is most in line with the view of autonomy as independence-separation, and parental autonomy support can be operationalized as granting children independence as opposed to maintaining children's dependence on parents (Steinberg & Silk, 2002). Within this perspective, parents who are low in autonomy support would endorse for their children to be reliant on parents rather than being independent. Authors like Soenens et al. (2007) have noted that this conceptualization of autonomy does not necessarily capture how parents promote autonomy, but are instead examining parental endorsement of independence or dependence in their children. They identify this form of support as promotion of independence (PI).

Promotion of volitional functioning. In contrast to PI, some scholars have viewed autonomy support differently, drawing on the SDT perspective of autonomy. This position views autonomy as the development of functioning and performing behaviors such as decision making that is based on a child's own volition that represents his/her own personal interests, values, and goals (Soenens et al., 2007; Van Petegem et al., 2013). This form of autonomy support is considered promotion of volitional functioning (PVF), and it represents parental empathy for a child's personal perspective when it comes to autonomous functioning. PVF is defined as fostering young peoples' feelings of volition and psychological freedom. PVF, therefore, fits in line with the SDT perspective that believes a salient aspect of true autonomy requires the presence of willingness and agency, which would demonstrate the adolescent is practicing independent behaviors based on their choice that stems from their actual values, beliefs, or interests (Ryan et al., 1995). Parents who practice the PVF form of autonomy support are then

viewed as having empathy for the views, beliefs, and interests of their children and providing choice, and there is no sense of control or coercion for children to behave independently.

Because PVF recognizes the perceptions and feelings of others, as well as the encouragement of self-initiated expression and behavior (Ryan & Solky, 1996), authors like Soenens et al. (2007) believe that PVF is the form of autonomy support that truly reflects how parents promote autonomy for their children. While previous approaches from perspectives such as separation-individuation theory emphasize the process of emotional separation and development of independence (Gray & Steinberg, 1999; Steinberg & Silk, 2002), this conceptualization of autonomy does not view it to be incompatible with relatedness.

Studies have confirmed that a distinction in how autonomy support is conceptualized is warranted. For example, Soenens, Vansteenkiste, and Sierens (2009) examined how autonomy support, as both PI and PVF, was associated with parental psychological control using cluster analysis techniques in a sample of 495 undergraduate students in Belgium. The use of a person-oriented approach using cluster analysis allows for examination of patterns of perceived parenting within families that may not be explained through more traditional variable-centered approaches. For example, a variable-centered approach may find negative correlations between autonomy support and psychological control, which would suggest that the two constructs are generally incompatible, but the cluster analysis approach allows researchers to see if *all* parents who are high in autonomy support are low on psychological control and vice versa. Soenens and colleagues found that the association between autonomy and psychological control varied depending on which definition of autonomy was used. Autonomy as PVF was consistently negatively associated with psychological control, but the association between PI and psychological control was inconsistent. These findings are completely in line with how SDT

conceptualizes autonomy support; parents who are high in PVF acknowledge their children's personal self-interests and values, which would not be true if a parent was psychologically controlling. Studies have found that psychological control can be detrimental for youth across different cultures. For example, a mixed methods study with 2,100 adolescents (a subset of 120 were interviewed) from various countries such as Costa Rica, Thailand, and South Africa found that psychological control was positively associated with depression and antisocial behavior (Barber, Xia, Olsen, McNeely, & Bose, 2012).

Due to this acknowledgement of PVF as its own distinct form of parental autonomy support, other scholars have begun to examine how PVF is associated with other outcomes. For example, there is supportive evidence that PVF is associated with positive outcomes such as well-being (e.g., competence) and academic performance and functioning (Ng, Kenney-Benson, & Pomerantz, 2004). Cross-cultural studies demonstrate the importance of such parental support across cultures. For example, a study with 322 adolescents from Denmark, South Korea, and the United States reported significant mean differences in adolescent's perceived autonomy support across these countries (Ferguson, Kasser, & Jahng, 2011). Danish adolescents had the highest levels of perceived autonomy support and satisfaction in life and school, compared to American and Korean adolescents. Despite these mean level differences, the association between autonomy support and satisfaction in life and school was similar across all three countries. These findings illustrate that differences in overall levels of autonomy support may exist between race/ethnic groups, but that autonomy support plays a similar function across cultures and groups.

It is important to note, however, that PVF does not imply an approach of indifference or permissiveness where parents follow their children's preference for independent or dependent functioning all the time, as if the child were continually taking the lead in parent-child

interactions. Under certain circumstances, the child can be required to act independently or the parent will make decisions for the child. When this is the case, a parent high in PVF would provide a meaningful rationale for why independent functioning is desirable or why choice is denied, and would then allow the child to voice her or his opinion on the issue at hand. Although both PVF and PI can deal with parents and how their children make personal decisions, they are still viewed as being distinct from one another. Parents who endorse PI desire for their children to make decisions independent from them, while parents who endorse PVF desire for and encourage their children to make decisions that represent the values, beliefs, and interests of their children. In the former, it would be possible for a parent to force a child to make a decision independently from the parent, although it may be a child's personal desire to not make the decision independently. Based on this definition, it is possible to re-conceptualize how autonomy and constructs such as relatedness are associated.

Family Relatedness

The construct of relatedness can be defined as tendency or propensity to achieve a feeling of connectedness or belonging with individuals or groups (Baumeister & Leary, 1995). Researchers have attempted to understand how the construct of relatedness is perceived within a family context. For example, a study with 240 adolescents and emerging adults from four different ethnic backgrounds (European American, Mexican American, Armenian American, and Korean American) in the United States found that relatedness was viewed as compliance with parental wishes, with a common emphasis on interdependence and close family relationships (Phinney, Kim-Jo, Osorio, & Vilhjalmssdottir, 2005).

Similarly to autonomy, the construct of relatedness tends to be universally understood and viewed as a basic need (e.g., having strong ties with others). However, relatedness has often

been viewed as being in conflict with autonomy, perhaps due to this emphasis on compliance and interdependence. (Ryan, Deci, Golnick, & LaGuardia, 2006). Although autonomy and relatedness are both seen as universal throughout all cultures, autonomy is more often associated with countries and cultures that are considered more individualistic such as the United States and other Western countries (Kağıtçıbaşı, 2005). In contrast, Kağıtçıbaşı notes that Western psychology has often associated relatedness with collectivist and non-Western countries and cultures such as those in East Asia. Collectivist societies are defined as those that emphasize common values, common goals, and operate in ways that require high levels of interdependence to fulfill satisfy expectations (Triandis, 1995). This need for interdependence translates to increased reliance of its community members, and especially within families, to maintain levels of relatedness that do not threaten bonds and/or collective goals. Relatedness therefore can be viewed as love, attachment, mutual obligations, belongingness, and loyalty as parents promote goals of order-setting control within the family that emphasize family and community reliance, loyalty, and reciprocity (McShane, Hastings, Smylie, & Prince, 2009). This form of relatedness was more prevalent for Korean American and Armenian American youth than European American youth. In light of this work, recent scholarship has questioned the notion that autonomy and relatedness are antithetical to each other, however, and has begun to offer different conceptualizations of how the two constructs are associated with each other.

As mentioned earlier, cross-cultural psychological perspectives and theories such as I-C had view autonomy and relatedness to be on opposing sides of a spectrum. From this perspective, there should be a natural progression during adolescence towards autonomy, which would conversely lead to a decrease in family relatedness. However, perspectives such as SDT and promotion of autonomy through PVF argue that the development of autonomy does not arise

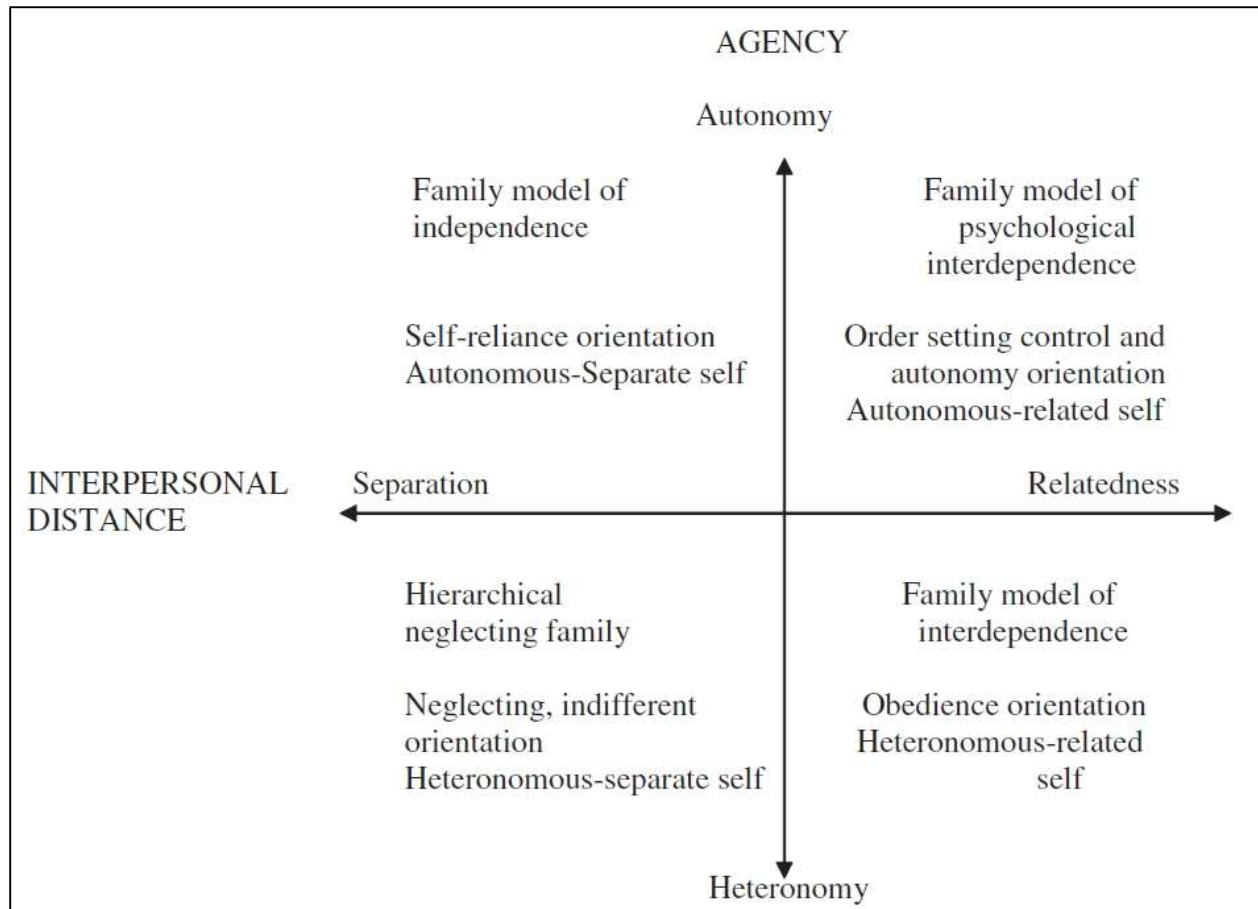
from promotion of independence through separation-individuation, but rather the promotion and feelings of choice during decision making for youth, and this perspective has been adopted in some cross-cultural work. Subscribing to this belief then posits that it is possible to promote autonomy through PVF, which is not at odds with close physical and emotional ties. This proposition aligns with recent cross-cultural work that also conceptualizes the two constructs to be independent but yet compatible.

Autonomy Support and Relatedness

Scholars such as Kağıtçıbaşı (2013) have pointed out that many Western psychologists have utilized the individualistic meaning of autonomy as independence and separation. As demonstrated in the review of the literature, however, recent scholarship in the SDT framework views autonomy as agency/volition. A SDT framework has allowed for scholars to re-evaluate the compatibility of autonomy with a variety of constructs. In fact, SDT scholars have identified autonomy and relatedness (along with competence) as universal basic needs for all individuals across cultures, positing that the two constructs can be compatible and endorsement of both may be beneficial. If both constructs are basic needs, then parent and adolescent attitudes for youth autonomy as volitional functioning (PVF) and attitudes for family relatedness should be positively associated with each other. This is reflected in Kağıtçıbaşı's conceptual model of autonomy-relatedness, which posits that the two constructs are independent dimensions and provides an orthogonal depiction of this conceptualization (see Figure 1) (Kağıtçıbaşı, 2013).

Figure 1

Kağıtçıbaşı's Four Types of Self Based on Independent Dimensions of Agency and Interpersonal Distance (Kağıtçıbaşı, 2007)



This conceptualization provides four possible combinations based on endorsement of agency (the spectrum between autonomy and heteronomy) and interpersonal distance (the spectrum between relatedness and separation): autonomous-related self, autonomous-separate self, heteronomous-related self, and heteronomous-separate self.

The autonomous-separate self is high on autonomy but low on relatedness, and is believed to occur in “independent” families where children are raised to be self-sufficient and self-reliant. The heteronomous-related self is high on relatedness but low on autonomy, and this form may arise within families that emphasize both interdependence and obedience. In contrast,

the autonomous-related self is high on both autonomy and relatedness. In this profile, children have interdependence with parents while having personal autonomy/agency. The last form of self is the heteronomous-separate self, which is high on separation and low on autonomy. According to this model, children who fit this profile are raised to be obedient and to follow the hierarchical power structures, but parents are either neglectful and/or indifferent. Kağıtçıbaşı notes, however, that this form of self has not been observed as a cultural ideal. A study by Smetana and Gettman (2006) appears to support this conceptual framework. In their study with 76 African American youth, they found profiles of adolescents that had high levels of both autonomy and relatedness (autonomous-related self), as well as those who had high relatedness but lower levels of behavioral autonomy (heteronomous-related self). They also identified a profile of adolescents that were high in relatedness but had more moderate levels of autonomy.

Other studies have also demonstrated empirical support for the conceptualization of relatedness and autonomy as independent, but associated, constructs. For example, a study of 601 Dutch-speaking Belgium students in 9th through 12th grade found that separation (opposite of relatedness on the spectrum of interpersonal distance) and agency were independent constructs (Beyers, Goossens, Vansant, & Moors, 2003). Other studies looking at the association between autonomy and relatedness as independent constructs have found similar patterns. For example, a study with 141 married adult couples from the United States reported that autonomy and relatedness were positively associated with each other and that they were associated with relationship satisfaction (Rankin-Esquer, Burnett, Baucom, & Epstein, 1997). The authors concluded that couples viewed both autonomy and relatedness to be important constructs that coexisted together. Other similar studies examining autonomy and relatedness in relationship satisfaction have found both autonomy and relatedness to be important factors, although they

may vary culturally. For example, one study found that although the two constructs were important in both American and Korean relationships, relatedness was a stronger predictor for Koreans, while a need for self-esteem has a stronger predictor for Americans. These findings demonstrate that although both autonomy and relatedness may be universal basic needs, there may be variations due to demographic factors.

Additional studies have indeed found autonomy and relatedness to be associated with each other, as well as a variety of positive outcomes. For example, a study of 729 adolescents in their final year of high school in Quebec found that autonomy support was associated with parental involvement, relatedness needs, and academic persistence across the transitions into college (Ratelle, Larose, Guay, & Senécal, 2005). Another study conducted in Sicily (southern Italy) with 325 Caucasian adolescents and emerging adults between the ages of 17 to 26 years old found that parental autonomy support and relatedness were positively associated with each other (Inguglia, Ingoglia, Liga, Coco, & Lo Cricchio, 2015). Adolescents and emerging adults who perceived their parents to support their autonomy reported higher levels of relatedness. In addition, autonomy support and relatedness were negatively associated with psychological maladjustment (e.g., depression, loneliness). Although these findings further exemplify the core assertions by SDT scholars that both autonomy and relatedness are basic needs for individuals, these studies' samples were limited to individuals in one country who were in the later stages of adolescence and emerging adulthood, and additional work with a wider range of adolescents and from more diverse backgrounds is needed.

The findings from these studies support Kağıtçıbaşı's (2005) perspective that autonomy and relatedness are independent constructs that can coexist and can be mutually instilled within families. Autonomy is accepted by parents, but there is still psychological interdependence

between parent and child. For example, a study with 455 French parents with infants and young children revealed a cultural model of parenting that values and endorses compliance, which demonstrates profiles of parenting in non-collectivist cultures and countries where relatedness and interdependence is a socialization goal. Studies in other contexts also reveal that psychological interdependence persists despite the introduction of increased autonomy. For example, a study in Hong Kong with 49 Asian adolescents from upper-middle-class families found that relatedness and interdependency was still strongly endorsed and persistent, despite increases in expectations for autonomy during adolescence and societal value shifts due to modernization (Stewart et al., 1999). These studies demonstrate that family endorsement of both autonomy and relatedness are present across contexts and that there is a need to look beyond simple generalizations of families or cultures that strictly adhere to either autonomy or relatedness exclusively. Based on these studies and reconceptualization of the nature of autonomy and relatedness, this study employed a perspective that acknowledged the possibility of autonomy and relatedness as non-conflicting constructs, in addition to the recognition that variation in endorsement and patterns of these constructs can vary within cultures/counties. Using this perspective that integrates the frameworks from both SDT and cross-cultural research, this study examined how autonomy and relatedness are associated with an issue that has been identified as salient in matters of autonomy: decision making.

Decision Making

One of the key issues that define parent-child relationships during adolescence is the negotiation of decision making. Research has consistently shown that adolescence is a period when adolescents have increased input into the issues of their everyday lives (Fuligni & Eccles, 1993; Steinberg, 1990). Adolescent-led decision making has been shown to increase with age

(Dornbusch, Ritter, Mont-Reynaud, & Chen, 1990). It is therefore important to examine how the behavioral manifestation of autonomy (decision making) plays out amidst the changes and balancing of autonomy support and relatedness during this time period. Behavioral autonomy has been defined by some not as freedom from others (independence), but rather freedom to perform actions that are on one's behalf, with the recognition of the importance of maintaining connections (Ryan & Deci, 2006). This definition of behavioral autonomy appears to be in line with aspects of SDT's perspective of autonomy that is supported through PVF, but not with that of PI, which defines autonomy as actual independence from others (separation/individuation).

Scholars have examined the extent to which adolescents make decisions with or without parental input. The varying degrees in decision making range from youth-alone (adolescents make decisions without any parental input) to parent-unilateral (parents make decisions without any adolescent input), and in between these extremes would be joint decision making (decisions are made together using both adolescent and parent input). A study found that youth-alone decision making was associated with negative outcomes in academic performance, and joint decision making was associated with better academic performance (Dornbusch et al., 1990). Other studies have examined how the range in youth-alone to parent-unilateral decision making is associated with other outcomes such as psychosocial development and adjustment (e.g., self-reliance, self-esteem). Studies have found that joint decision making tends to be associated with positive outcomes, while youth-alone decision making to be associated with mostly negative outcomes (Lamborn, Dornbusch, & Steinberg, 1996). Decision making has been viewed as an important issue during adolescence, and this current study examined influence of autonomy and relatedness on this matter.

Autonomy-Relatedness and Decision making: Role of Demographic Factors

The proceeding review of the literature provided some of the general history and theoretical backgrounds on examinations of the development of autonomy and related constructs during adolescence. This review demonstrates the need to reexamine the associations between autonomy, relatedness, and decision making during adolescence. Research has shown, however, that differences in autonomy support, relatedness, and decision making may exist due to a variety of key demographic factors such as race/ethnicity, child age, and child gender. These are discussed below.

Age. Adolescence covers a wide span of ages, and gaining autonomy is viewed as a natural progression as children get older. Therefore it can be expected that parents may endorse autonomy support differently based on the age of their child. Fousiani et al. (2014) reported that age was positively related to both youth's perceptions of parental autonomy support and levels of independent decision making. Other studies examining parent-child relationships have identified differences in autonomy and relatedness due to age. Typically it has been identified that there is an increase in autonomy and a decrease in relatedness during adolescence (Buhl, 2008). A review of the literature using a separation-individuation framework also comes to similar conclusions that autonomy increases during adolescence into the adult years as youth become more separated from their parents (Koepke & Denissen, 2012). Therefore, it is possible that age differences will be observed in parental autonomy support, relatedness, and decision making.

Gender. Prior research has shown that men tend to have more independent and less interdependent self-concepts than women, which may be a result of socialization beliefs and practices (Cross & Madson, 1997). Fousiani et al.'s (2014) findings indicate that boys are socialized to be more independent than girls (PI), but work is still needed to see if there are

differences in parental autonomy support (PVF) of boys and girls. Other studies have reported findings that are not in line with the assumption about boys being granted more autonomy. For example, a study examining autonomy support and decision making in 194 families found that parents granted more autonomy to daughters than sons if parents had higher education levels and had less traditional views on gender (Bumpus, Crouter, & McHale, 2001). Therefore, it is still unclear whether boys or girls have more autonomy, although these findings suggest that examination of demographic factors such as education (as an indicator of socioeconomic status) may impact autonomy support and decision making within families.

Research on relatedness and gender has also demonstrated mixed findings. For example, a study with 123 mother-adolescent dyads in Israel found that mothers and daughters reported lower relatedness than mothers and sons, although this was only evident in high-conflict contexts such as during arguments (Sher-Censor, 2015). In contrast, a study with 76 mother-adolescent dyads from Germany found that mothers reported higher connectedness with daughters than with sons, although adolescents themselves did not report any differences in connectedness with their mothers (Pinquart & Silbereisen, 2002). A study with a large Dutch sample of 2,256 men and women found that connectedness was valued more highly by women than men, providing some additional evidence of higher relatedness for females than males (Bekker & van Assen, 2008). These mixed findings may also be a result of the different sample populations of the respective studies, which further illustrates the need for additional work examining autonomy and relatedness concurrently and with diverse samples.

Race/Ethnicity. As demographic trends in the U.S. continue to change, it becomes increasingly important for scholars to examine the autonomy, relatedness, and decision making dynamics in racially and ethnically diverse families. The Pew Research Center (2015) projects

that by 2065, about one-third of Americans will either be immigrants or have immigrant parents. In particular, it is predicted that Hispanics will make up a quarter of the American population. The data from the Pew Research Center demonstrates how rapidly the demographics in the United States are changing, yet research examining autonomy, relatedness, and decision making is limited. Although many studies have examined differences in families on issues of A-R and decision making, the majority of these studies have been cross-cultural with racially/ethnically homogenous samples. These studies have provided us with much knowledge of similarities and differences between countries and cultures, but there is a need to consider the wide variations of endorsement of these constructs within cultures. Only a few studies have examined these issues with diverse samples within countries. This work demonstrates that race/ethnicity are important factors when considering autonomy, relatedness, and decision making.

Some studies have found that the gaining of autonomy and independence may be different in Latino families due to cultural values surrounding obligations or values regarding respect and authority towards parents and family (Fuligni et al., 1999; Fuligni & Yoshikawa, 2003). Others have reported that Latino parents have later age expectations than European-American parents for their children to exhibit behavioral autonomy (Phinney et al., 2005). Other developmental researchers have also reported that parents in Mexican American and immigrant families practiced high parental control on youth's decision making autonomy (Baumrind, 2005). Other studies, however, have shown similarities between Latinos and other groups. For example, a study with 217 adolescents in grades 6 through 10 in the U.S. found that Latino adolescents displayed similar desires for autonomy as their European-American peers (Martinez, McClure, Eddy, & Wilson, 2011). Other studies have found that cultural orientations may affect parent-adolescent interactions surrounding issues of autonomy. For example, expectations for

autonomy may differ based on acculturation; autonomy granting patterns for immigrant parents are more similar to parents in the majority culture as families adapt to a new culture (Zimmer-Gembeck & Collins, 2003). Taken together, this work suggests that factors that are often associated with cultural orientations (e.g., immigration history) may influence beliefs and behaviors regarding autonomy and decision making.

Other studies have examined autonomy issues for other Americans from non-European backgrounds. For example, Feldman and Quatman (1988) found significant differences in perceptions of Asian American youth compared to European American youth in regards to money spending; Asian Americans reported expecting to be able to spend their own money or stay home when sick at an average of 16 years of age, but European American reported being able to do perform these autonomous behaviors at 13.2 years of age. These findings indicate that the age when more autonomous behaviors begin may vary across race/ethnic groups. As the demographics in countries like the U.S. rapidly shift, there is an increased necessity to explore issues of A-R and decision making in diverse samples that vary on factors such as race/ethnicity and nativity/immigration status.

The Current Study

This study builds upon and integrated the work from both SDT and cross-cultural research to examine how autonomy and family relatedness are associated with the decision making process within families, and distinct profiles of families were identified based on varying levels of autonomy support and family relatedness. This change in the conceptualization of autonomy requires additional research to be done to reassess the associations between autonomy and other closely related constructs. In particular, the associations between autonomy and relatedness must be reexamined in light of these theoretical developments. While previous work

has viewed autonomy and relatedness as opposing constructs, recent theories and research posits that the two are basic needs that are compatible. In addition, it is important to examine how socialization of both autonomy and relatedness beliefs and values within families are associated with actual autonomous behavior (decision making). As evident in the review of the literature, there is still much that is unknown about the associations among these factors and how these vary based on demographic variables.

This dissertation study addressed several gaps in the literature. First, it will examine a largely unexamined question regarding how autonomy relates to a central issue revolving around autonomy: decision making. Although some studies have looked at profiles and patterns of autonomy and relatedness together and the association with decision making, these studies have often used parental promotion of independence rather than promotion of volitional functioning. In addition, the data from this study comes from both parent and child reports, which may provide a more complete picture on the role of parental socialization of autonomy-relatedness and children's perceptions of these constructs and their associated outcomes. In order to address these important issues, a combination of a variable-centered and person-centered approach were used, which allowed for an examination of these issues from different perspectives. Specifically, a variable-centered approach investigated relationships between variables. In contrast, a person-centered approach allowed for an investigation allows for an understanding of how these important factors are combined or configured within the unit (i.e., the dyad) (Bergman, Cairns, Nilsson, & Nystedt, 2000). Another contribution from this study is the examination of these issues in a diverse sample of the United States. Many studies that have looked at autonomy, relatedness, and decision making together have been cross-cultural studies and those that have had ethnically homogenous samples. These studies have contributed to our understanding of

between-culture similarities and differences, but there is a need to also study within-culture variations, especially within countries and cultures that are undergoing significant demographic changes. Therefore, this study will examine a diverse group of participants that vary in demographic factors such as race/ethnicity, generational status, and SES within the United States.

Two main research questions were addressed in this dissertation:

- (1) How are autonomy support and relatedness associated with decision making in families? Do any of the associations differ by our key demographic variables?
- (2) How are autonomy support and relatedness configured within families? Are there particular patterns (profiles) in autonomy support and relatedness within the sample, and do these profiles differ in demographic characteristics or behavioral autonomy (decision making)?

Chapter 3: Methodology

Participants

This study uses dyadic parent-child data from the first data collection point of the Pathways Project (Proyecto Caminos), a mixed methods, multi-informant, longitudinal study of adolescent development led by Dr. Reed Larson and Dr. Marcela Raffaelli (members of the dissertation committee). The study sample consisted of youth participating in afterschool programs in a variety of small towns and large cities from two states in the Midwestern United States. The current study analyzed quantitative data collected at baseline from 232 parent-child dyads. Demographic characteristics of the sample are displayed in Table 1 (parent) and Table 2 (youth).

Table 1

Characteristics of Parent/Guardian Sample

	Overall Sample	By Ethnicity		
	Mean (Range) or %	Latino (n = 89)	European American (n = 74)	African American (n = 69)
Gender				
Female	80.0%	79.3%	73.2%	86.4%
Country of birth				
Born in the U.S.	68.8%	25.6%	95.8%	93.8%
Age (Range)	43.28 (21-71)	42.05 (28-60) ^a	46.54 (34-62) ^b	41.08 (21-71) ^a
Education (years)	13.79 (0-24)	11.77 (0-22) ^a	15.89 (12-24) ^b	13.97 (5-21) ^c
Family's gross annual income	7.36 (1-12)	5.60 (1-12) ^a	10.16 (1-12) ^b	6.42 (1-12) ^a

N = 232 parents/guardians who completed the questionnaire at the first time of data collection with corresponding youth data.

Note: Income rated on a 12-point scale from 1 = *Less than \$10,000* to 12 = *\$60,000 or more*. A score of 7 is equivalent to *\$35,000 - \$39,999*.

a, b, c = Means that have different superscripts differ at $p \leq .05$ based on Tukey's HSD post hoc paired comparisons

Table 2

Characteristics of Youth Sample

	Overall Sample	By Ethnicity		
	Mean (Range) or %	Latino (n = 89)	European American (n = 74)	African American (n = 69)
Gender				
Female	58.2%	59.6%	54.1%	60.9%
Age (years)	15.83 (13-18)	15.66 (13-18)	15.99 (14-18)	15.87 (13-18)

Procedures

Youth completed structured questionnaires administered on small laptop computers at four time points across the program cycle, and one parent was asked to complete questionnaires at the start and end of the study. All study procedures were approved by Institutional Review Boards at the investigators' home institutions. At each program, a member of the research team presented information about the study to youth and gave interested youth a parent information letter (available in both English and Spanish) that included instructions for opting out of the study. At the first data collection session, youth provided written assent. They were also asked to provide parental contact information and (with their permission) one of their parents was invited to participate. Parental data collection was coordinated by a designated "family liaison" at each site and included various strategies (e.g., group data collection sessions, mailing of questionnaire packets with phone call or email reminders). Participants received modest monetary incentives for each study component completed.

Measures

Demographics. Parents reported their age, sex, race/ethnicity, education (years), birthplace, and household gross annual income. Children provided information on their age, sex, race/ethnicity, and birthplace.

Autonomy support (PVF). Parents completed shortened versions of Soenens et al.'s (2007) scale for parental autonomy support (see Appendix A). The adapted version of the scale for parents contained 4 items ($\alpha = .79$) assessing values and attitudes on volitional autonomy support. Parents indicated how each statement describes their behavior toward their child (e.g., "I let my child plan things s/he wants to do" and "I am willing to consider things from my child's point of view"), on a 5-point scale from 1 = *strongly disagree*, 2 = *disagree*, 3 = *in the middle*, 4

= *agree*, and 5 = *agree*. Youth completed a child-report version of the same measure ($\alpha = .82$) that assessed their views of parental autonomy support (e.g., “My parent(s) let me make my own plans for things I want to do” and “My parents are willing to consider things from my point of view”), rating each item on the same 5-point scale. Overall scores were computed by averaging, with higher scores indicating higher levels of parental autonomy support.

Family relatedness. Parents completed an adapted shortened version of Phinney et al.’s (2005) scale for family interdependence (see Appendix B). The scale was originally developed as a youth-report measure, so items were adapted for use with parents as well. This was done by rewording the 3-item ($\alpha = .65$) so that parents reported on the perceived importance of his/her child’s interdependence (e.g., doing what parents want even when youth disagree, showing respect). Each item was scored on a 5-point scale where 1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *quite a lot*, and 5 = *very much on how*. Youth were given the child-report version of this 3-item measure ($\alpha = .69$) that assessed the perceived importance of his/her own interdependence to their parent(s), using the same 5-point response scale as the parent version. Overall scores were computed by averaging, with higher scores indicating higher levels of family relatedness.

Adolescent decision making. An adapted version of Dornbusch et al.’s (1990) measure was used to assess child perspectives of their behavioral autonomy (decision making). Eleven items assessed decision making about a variety of matters (e.g., the child’s romantic relationships, curfew; see Appendix C). Items were rated from 1 = *My parent(s) leave the decision making entirely up to me* to 5 = *My parent(s) decide without discussing it with me*. Scores were reverse-coded before averaging so that higher scores reflect more adolescent independence in decision making.

Analytic Plan

Preliminary analyses. Preliminary analyses were used to determine appropriate variables for model testing. The data set contains dyadic data from parents and children, and tests were conducted to determine if both parent and child reports could be used in various analyses. We determined if parent-child autonomy support and parent-child relatedness were non-independent by calculating Pearson correlations. Non-independence can lead effect estimates to be biased, standard errors to be biased, and a loss in degrees of freedom (Kenny, Kashy, & Cook, 2006). Correlations of .50 or higher would be categorized as “large,” and a decision made on whether the parent or child data should be removed or combined for use in other analyses.

A second set of tests examined possible collinearity of the demographic independent variables. Based on naturally occurring population patterns, we expected that demographic indicators such as race/ethnicity, U.S. residency generational status, and socioeconomic status would be correlated within the sample. Examination of correlations between these variables allowed us to decide which variables to retain for the analyses.

Preliminary analyses were also conducted to determine how to utilize the items from the decision making scale (the dependent variable). Based on previous research, the scale for decision making can be kept on a continuous measure (Hasebe, Nucci, & Nucci, 2004; Smetana, Campione-Barr, & Daddis, 2004). Researchers have noted that a continuous scale captures the continuum that families move along as children progress from parent-unilateral, joint, and child-unilateral decision making (Qin et al., 2009). Early studies used the average of all the items in the scale to create an overall score for decision making (Dornbusch et al., 1990). Other researchers have differentiated between various domains of behavioral autonomy issues (Smetana et al., 2004). For example, researchers have found that decision making in families can

vary based on whether the issue is perceived as 1) personal (e.g., how to spend money, when to do homework); 2) conventional (e.g., whether to do assigned chores), or 3) prudential (e.g. drink alcohol, do drugs, have sex). In particular, it is typically expected for children to have more autonomy for personal than conventional issues, and autonomy for prudential issues is expected to be the latest (Daddis & Smetana, 2005; Feldman & Quatman; 1988). Smetana et al. (2004) have noted that some issues can overlap (e.g., personal and conventional), and these are referred to as multifaceted issues (e.g., what TV shows to watch, how late to stay out at night, which friend to spend time with). Accordingly, the 11 items in the decision making scale were factor analyzed to determine how to proceed with data reduction. Factor analyses resulted in two possible subscales; however, the reliabilities on these subscales were lower than the reliability of the composite scale with all 11 items, and the decision was made to keep the original scale. Overall mean scores were calculated for parent and child reports of autonomy support, parent and child reports of relatedness, and child reports of decision making. Factorial ANOVAs (e.g., ethnicity x gender) or ANCOVAs (e.g., controlling for certain demographic variables) were conducted to test for any differences in mean levels for these variables.

Research question analyses. We utilized both a variable-oriented and a person-centered approach to address the research questions. A variable-oriented approach provides valuable insight on the predictive nature of the attitudes of autonomy support and relatedness on behavioral autonomy (decision making). A person-centered approach (i.e., cluster analysis) allows for an examination of how autonomy support (PVF) co-occurs with relatedness within individuals. This approach provides the opportunity to see patterns of autonomy support and relatedness endorsement that may not be apparent in only a variable-oriented approach.

Question 1: *How are autonomy support and relatedness associated with decision making in families? Do any of the associations differ by our key demographic variables?*

A variable-centered approach will be taken to answer this question. The first set of analyses will use hierarchical regressions to examine the association between decision making (i.e., dependent variable) and the independent variables of interest (autonomy support, relatedness, the interaction of autonomy support and relatedness); demographic variables identified in preliminary analyses were also considered.

Question 2: *How are autonomy and relatedness configured within families, and are there particular patterns (profiles) in autonomy support and relatedness within the sample?*

A variety of methods for typologizing dyadic relationships have been utilized in family and developmental studies (Maguire, 1999). In particular, a priori classification strategies (e.g., taxonomies using median splits), cluster analysis, and mixture models are three of the most common methods, each with their own strengths and weaknesses. A priori strategies such as the use of median splits have been noted for their ease in creating groups when the number of constructs is small. For example, a median split using the top and bottom ends of two constructs will result in four categories; however, introducing additional constructs is problematic as this approach yields too many cells for comparisons. For example, a parent-child dyad reporting on the same two constructs would result in establishing medians splits for four constructs, which would result in 16 total groups. In addition, valuable information can be lost when individuals are forced into high and low groups. Due to these limitations, cluster analysis or mixture models are often viewed as being preferable.

Although mixture models have some benefits over cluster analysis such as providing fit statistics for comparing and determining among models, cluster analysis is viewed as being more

exploratory than the estimation methods in mixture models (B. Ogolsky, personal communication, July 27, 2016; Whiteman & Loken, 2006). Cluster analysis can be classified as a person-centric approach and is a useful method of identifying groups (clusters) based on similar shared characteristics (Kaufman & Rousseeuw, 2009). As there is limited research testing Kağıtçıbaşı's (2005) orthogonal model of autonomy and relatedness, it was determined that cluster analysis would be more suitable given the exploratory nature of this current study. This decision to use clustering methods is also based on family studies literature that has demonstrated usage of multiple clustering techniques for determination of clustering validity, often referred to as confirmatory cluster analysis (Fisher & Ransom, 1995). Common approaches to confirmatory cluster analyses begin with the usage of a hierarchical clustering method followed by non-hierarchical clustering methods to confirm the results by examining the match of cluster membership across the two methods (Henry, Tolan, & Gorman-Smith, 2005).

Accordingly, exploratory cluster analyses were conducted to identify groups of similar individuals based on patterns of autonomy support and relatedness endorsement. These cluster analyses were conducted using both parent and child reports of autonomy support and relatedness (4 variables). Due to the exploratory nature of this study, a two-step analytic method using a hierarchical clustering method and non-hierarchical method was utilized to identify the number of clusters in the data set.

For the first clustering method, an agglomerative hierarchical method using Ward's (1963) method of minimum variance technique was used to determine the ideal number of clusters in the data. The hierarchical method does not need a preset number of clusters to be identified; it utilizes measures of distance to assess similarity or dissimilarity between pairs of objects, and clusters are consecutively formed from said objects. Ward's method is a common

hierarchical cluster method that merges objects are merged in a manner that minimizes within-cluster variance to create distinct groupings (Mooi & Sarstedt, 2011). The four scales in the cluster analysis all use a 5-point scale, so raw scale scores can be used with no standardization. The determination of the number of clusters was based on examination of the dendrogram and coherence of the clusters.

In order to check the validity of the initial hierarchical clusters, a second clustering technique, the k-means method, was used. The k-means method utilizes the within-cluster variation to form homogenous clusters, and this method requires that the researcher determine the number of solutions a-priori (Mooi & Sarstedt, 2011). Unlike Ward's method and other hierarchical methods that form agglomerative clusters, the k-means procedure begins by randomly assigning cases to the number of cluster solutions chosen and continuously relocates cases until within-cluster variances are minimized. To confirm and test for the replicability of the hierarchical cluster analyses, we set the expected number of clusters to match those of the results from Ward's technique. However, we also considered a 4-cluster model based on Kağıtçıbaşı's (2005) orthogonal conceptualization of four possible selves based on endorsement of the independent constructs of agency (autonomy) and separateness (relatedness). Although there is a theoretical basis for usage of a 4 cluster model, it is unknown if the data from this sample will accurately fit and represent Kağıtçıbaşı's model. One-way or factorial ANOVAs (depending on the number of independent variables retained after collinearity tests) were performed to examine if differences exist on mean levels of the cluster variables (autonomy support, relatedness).

Chapter 4: Results

Data Screening

Data were prepared and cleaned for analysis through inspection of missing data and outliers to test for model assumptions and to determine the appropriate selection of variables for model testing of research questions. A variety of preliminary analyses were conducted to screen the demographic and construct variables. The data were analyzed using IBM SPSS Statistics 23.

Missing data. Measures of parent and child age, parent and child gender, parent years of education, annual family income, and parent and child report of autonomy support, relatedness, and decision making had missing data ranging from 1% to 14%. In order to retain a larger sample for analysis, multiple imputation (MI) was used to estimate missing values. Graham and Shafer (1999) have shown that multiple imputation is useful in data sets with even smaller samples and higher amounts of missing data (50%). Multiple imputation has been noted by scholars to be a superior method of dealing with missing data than alternative techniques such as listwise deletion (Baraldi & Enders, 2010). MI was conducted using IBM SPSS 23 Statistics, running 5 imputations with 10 iterations between data sets based on suggestions for efficient estimation (Rubin, 1987; Schafer & Olsen, 1998). This process yielded a complete data set with no missing values on variables of interest for subsequent analyses.

Outliers. To identify univariate outliers, z-scores were computed for each of the scales of interest. Cases with standardized z scores beyond ± 3.29 ($p < .001$, two-tailed test) were identified as univariate outliers (Tabachnick & Fidell, 2006). There were very few outliers; each of the scales had no more than 3 outliers based on calculated standardized z-scores. Outliers were replaced with overall mean plus or minus two standard deviations, which created scores that were still deviant but reduced the impact of the outlier on model assumptions and fit (Field,

2009; Tabacknick et al., 2006). No multivariate outliers detected using Mahalanobis distance, which refers to the distance of a case from the centroid of remaining cases where the centroid is calculated as the intersection of the mean of the variables being assessed (Tabachnick & Fidell, 2006). Distances are calculated and interpreted using a conservative rule of $p < .001$ and corresponding χ^2 with the degrees of freedom equal to the number of variables included.

Multicollinearity. First, bivariate correlations were conducted with parent and child report of the demographic and main construct variables of interest (i.e., autonomy support, relatedness, and decision making). As observed in Table 3, each of the scales was significantly correlated with at least one other scale, with the exception of the parent report of relatedness. To test for multicollinearity of the independent variables of interest, parent and child reports of autonomy support and relatedness were analyzed and tested for variance inflation factors (VIF)/tolerance. All VIF values were lower than 10, and the average VIF was not substantially greater than 1.00 ($M = 1.10$), indicating no violations of multicollinearity of the predictor variables (Myers, 1986). Because the correlations and VIF are at acceptable levels, it was determined that the parent and child reports are not collinear; therefore, both parent and child reports on autonomy support and relatedness were retained for research question analyses.

Table 3

Correlations of Continuous Variables

Measure	M (SD)	1	2	3	4	5	6	7	8
1. Child Age (Years)	15.83 (1.19)								
2. Parent Education (Years)	13.71 (4.56)	-.06							
3. Family Annual Income	7.24 (3.99)	-.02	.44**						
4. Parent Autonomy Support (Parent)	3.86 (0.67)	.01	.21**	.21					
5. Family Relatedness (Parent)	3.99 (0.75)	-.14*	.03	-.04	.09				
6. Parent Autonomy Support (Youth)	3.65 (0.80)	.09	.30**	.18*	.30**	.06			
7. Family Relatedness (Youth)	3.79 (0.82)	-.01	.06	.01	-.04	.07	.25*		
8. Decision Making (Youth)	3.72 (0.64)	.24**	.05	-.01	.14*	-.05	.40**	-.04	

Notes: N = 232. * $p < .05$; ** $p < .01$. Income rated on a 12-point scale from 1 = *Less than \$10,000* to 12 = *\$60,000 or more*.

Nonindependence. Parent and child data were tested for nonindependence to determine the appropriate method of handling dyadic data. Nonindependence between parent and child data could lead to unwanted statistical biases that affect assumptions in regression analysis and the interpretation of coefficients, which would require alternative approaches (e.g., pooling data, SEM) to be utilized. (Kenny et al., 2006). Parent and child were determined to be distinguishable dyads (parent and child data are differentiated). Based on this, it was determined that the Pearson product-moment correlation was the appropriate measure to determine nonindependence for the parent and child reports of parental autonomy support and family relatedness. Based on Kenny et al.'s recommendation, a double entry method was used where each dyad's data is entered twice as two sets of scores in the data set, and then the correlation coefficient was calculated. Although parent and child report of autonomy support was correlated, $r(464) = .27, p < .001$, the correlations coefficient was not considered moderate to large based on criteria from Kenny and colleagues. Parent and child reports of relatedness were also not nonindependent, $r(464) = .06, p = .22$. Therefore, it was determined that the variable-centered hierarchical regression analyses would be conducted with parent and child reports of the construct scales separate rather than pooled or through alternative analysis methods.

Normality. A normal P-P plot of the standard residuals, errors, and standardized predicted values was generated to examine regression assumptions. Based on inspection of the generated plots, it was determined that assumptions of random errors and homoscedasticity were met. Independence of errors was tested using the Durbin-Watson test, generating a value of 2.00, indicating appropriate levels of independence of error terms (Field, 2009).

Power. Prior to conducting the hierarchical multiple regressions, statistical assumptions were tested. Using the G*Power 3.1.9.2 software, a sample size of 232 was deemed sufficient in

a hierarchical multiple regression model with potentially ten independent variables attempting to achieve at least a small effect size (.20) (Cohen, 1992). Having sufficient power increases confidence in the analyses of detecting an effect if one truly exists (Field, 2009).

Preliminary Analyses

A variety of analyses were conducted to describe the sample and identify potential control variables for the main analyses. Bivariate correlations were examined to identify associations between variables of interest (see Table 3). Due to our interest in this study of the examination of key variables and constructs in a diverse sample, comparison analyses were conducted by race/ethnicity and are presented in Table 4 (parent) and Table 5 (youth). Chi-square tests were used for categorical variables, and analysis of variance (ANOVA) was conducted for continuous variables, and chi-square tests were used for categorical variables.

Table 4

Scale Statistics for Parent Sample

	Overall Sample	By Ethnicity		
	Mean (SD)	Latino (n = 89)	European American (n = 74)	African American (n = 69)
Autonomy Support	3.86 (0.67)	3.76 (0.76) ^a	4.11 (0.51) ^b	3.80 (0.65) ^a
Relatedness	4.00 (0.75)	3.83 (0.81) ^a	3.92 (0.61) ^a	4.31 (0.73) ^b

Note: a, b, c = Means with different superscripts differ at $p \leq .05$ based on Tukey's HSD post hoc paired comparisons.

Table 5

Scale Statistics for Youth Sample

	Overall Sample	By Race/Ethnicity		
	Mean (SD)	Latino (n = 89)	European American (n = 74)	African American (n = 69)
Autonomy Support	3.65 (0.81)	3.37 (0.79) ^a	3.98 (0.65) ^b	3.66 (0.84) ^c
Relatedness	3.79 (0.82)	3.70 (0.80)	3.79 (0.84)	3.88 (0.83)
Decision Making	3.72 (0.64)	3.67 (0.66)	3.76 (0.52)	3.75 (0.72)

Note: a, b, c = Means with different superscripts differ at $p \leq .05$ based on Tukey's HSD post hoc paired comparisons.

Parent sample. A chi-square was conducted to examine the gender distribution of parents by race/ethnicity, and no differences were found, $\chi^2(2) = 3.61, p > .05$. The majority of Latinos parents were born outside the U.S. (74%), while the majority of White (94%) and Black (96%) parents were born in the U.S. A chi-square test was performed to determine if parent nativity (i.e., U.S.-born, born outside of the U.S.) was equally distributed among race/ethnicity, and it was found that Latino parents had higher than expected counts of being born outside the U.S., while White and Black parents had higher than expected counts of being born inside the U.S.

For parent age, an ANOVA revealed a significant difference by race/ethnicity, $F(2, 205) = 12.41, p < .001$. Post-hoc comparisons using the Tukey HSD found that European American parents were older than both Latino and African American parents, $p < .001$. Parents also differed in education by race/ethnicity, $F(2, 229) = 19.52, p < .001$. Post-hoc tests showed that White parents had more years of education than both Black and Latino parents, and Black parents also had more years of education than Latino parents, all p 's $< .05$. There was also an overall significant difference in family annual income, $F(2, 229) = 35.15, p < .001$. Post-hoc analyses revealed that European American families had significantly higher incomes than both Latino and African American families, $p < .001$. These analyses indicate that within this sample White families had higher overall SES than Black and Latino families. Years of education and total family income were significantly correlated, $r(232) = .44, p < .001$. Based on these findings that highly link SES with race/ethnicity, these SES indicators (i.e., education, total family income) will not be used in the research question analyses to reduce multicollinearity, and only race/ethnicity will be used in the statistical models.

Overall means for parent reports of the construct variables by race/ethnicity are displayed in Table 4. Along with examining how the key construct variables compare based on race/ethnicity, another central issue of interest in this study is how socialization and outcome variables may vary by child gender. As highlighted in this study's review of the literature, findings are somewhat inconsistent on the impact of gender on autonomy, relatedness, and decision making. In addition, correlation analyses revealed that child age was significantly correlated with key construct variables. Therefore, two-way ANCOVAs (race/ethnicity x child gender) controlling for child age were conducted to examine differences in parent reports of key constructs.

For parental reports of autonomy support, there was a main effect of race/ethnicity, $F(2, 225) = 5.55, p = .004$. Post-hoc analyses using Bonferroni correction found that European American parents reported higher levels of parental autonomy support than Latino and African American parents. There was no main effect for parental autonomy support by child gender $F(1, 225) = 0.17, p = .68$. There was also no observed interaction of race/ethnicity and child gender, $F(2, 225) = 1.22, p = .30$. The two-way (race/ethnicity x child gender) ANCOVA was repeated for parent report of family relatedness as the outcome variable. A main effect of race/ethnicity was observed for parental reports of relatedness, $F(2, 225) = 8.30, p < .001$. Post-hoc analyses using Bonferroni correction revealed that African American parents reported higher levels of relatedness than both Latino and European American parents. There was no main effect found for child gender, $F(1, 225) = 0.14, p = .71$. The interaction term was also not significant, $F(2, 225) = 0.72, p = .49$. These findings indicate that there are differences on parent reports of these two main constructs based on race/ethnicity, and are therefore potentially factors that need to be accounted and controlled for in the regression models. Although there were no significant

differences based on gender in these analyses, potential trends were detected and are therefore included as controls in the regression model.

Youth sample. Descriptive analyses were similarly conducted for the youth sample (refer to Table 5) for demographic variables such as age and gender, as well as the key construct variables. For children, there was no significant difference in age by race/ethnicity, $F(2, 229) = 1.57, p = .21$. To examine child gender distribution by race/ethnicity, a chi-square tests was conducted, and the observed distribution of gender was not significantly different from expected counts, $\chi^2(2) = .79, p = .67$. With no differences in age by gender/ethnicity, age can be viewed as an equal predictor across the entire sample.

Two-way ANCOVAs (race/ethnicity x child gender) controlling for child age were also conducted for youth reports of construct variables. For child report of parental autonomy support, a main effect by race/ethnicity was found, $F(2, 231) = 12.63, p < .001$. A post-hoc analysis using Bonferroni correction found that European American youth reported higher levels of parental autonomy support than both African American and Latino youth, and African American youth reported higher levels than Latino youth. There was no main effect of gender, $F(1, 225) = 0.38, p = .04$, and no interaction between race/ethnicity and gender was found, $F(2, 225) = 1.23, p = .29$. The two-way ANCOVA (race/ethnicity x child gender) was repeated with youth report of family relatedness as the outcome variable. There was no main effects by race/ethnicity, $F(2, 225) = 1.19, p = .31$, or by child gender, $F(1, 225) = 1.84, p = .18$. There was also no observed interaction effect, $F(2, 225) = 1.14, p = .32$. The same two-way ANCOVA was repeated for youth report of decision making as the outcome variable. There was no main effect on decision making by race/ethnicity, $F(2, 225) = 0.31, p = .74$. Although a main effect was not found, a trend existed by gender, $F(1, 225) = 3.72, p = .055$, with boys having slightly higher

levels of decision making than girls. Lastly, there was no interaction effect found for decision making, $F(2, 225) = 1.00, p = .37$. Similar to the parent reports, there are differences on youth reports of these two main constructs based on race/ethnicity, and are therefore potentially factors that need to be accounted and controlled for in the regression models.

Research Question Analyses

A variable-centered approach to examining A-R and decision making. One of the key goals of this study is to approach the examination of issues of autonomy, relatedness, and decision making from a traditionally variable-centered approach. In order to answer research question one (*How are autonomy support and relatedness associated with decision making in families? Do any of the associations differ by our key demographic variables?*), a three step hierarchical multiple regression was conducted using youth report of decision making as the dependent variable. Results are displayed in Table 6.

Table 6

Hierarchical Linear Regression Predicting Decision Making from Demographic and Construct Variables

Step and variable	Model 1				Model 2				Model 3			
	<i>B</i>	<i>SE B</i>	β	R ²	<i>B</i>	<i>SE B</i>	β	R ²	<i>B</i>	<i>SE B</i>	β	R ²
				.06**				.23***				.24***
Step 1: Demographics												
Child Age (Years)	0.11	0.04	.20**		0.09	0.03	.17**		0.09	0.03	.17**	
Child Gender (f = 0)	0.16	0.08	.12		0.13	0.08	.10		0.13	0.08	.10	
Latino American	-0.02	0.10	-.02		0.18	0.10	.13		0.17	0.10	.13	
African American	0.05	.11	.03		0.19	0.10	.13		0.18	0.10	.13	
Step 2: Construct Variables												
Parental Autonomy Support (Parent)					0.04	0.06	.04		-0.21	0.31	-.21	
Family Relatedness (Parent)					-0.06	0.05	-.06		-0.27	0.26	-.32	
Parental Autonomy Support (Youth)					0.34	0.05	.43***		0.48	0.23	.59**	
Family Relatedness (Youth)					-0.10	0.05	-.13*		0.03	0.23	.03	
Step 3: Interaction Terms												
Autonomy x Relatedness (Parent)									0.06	0.07	.38	
Autonomy x Relatedness (Youth)									-0.03	0.06	-.26	

Note: N = 232; * $p < .05$, ** $p < .01$, *** $p < .001$

Demographic variables (i.e., child age, gender, and ethnicity) were entered for stage one of the regression. The demographic variable of child age was included based on consideration of previous theory and literature that suggests possible differences based on these factors (Sounens et al., 2009; Van Petegem, Vansteenkiste, and Beyers, 2013) and due to earlier correlation analyses that showed an association between age and the outcome variable. The preliminary descriptive analyses showed that although there was no main or interaction effects by gender, a possible trend was detected, and it was included as a control variable for the regression models. For the second stage, youth and parent reports of parental autonomy support and family value relatedness were entered. In the third step the product of parent report of autonomy x relatedness and the youth report of autonomy x relatedness was entered for this step to test for an interaction (scales were mean centered to reduce collinearity; Aiken & West, 1991).

The first step of the hierarchical multiple regressions indicated that the demographics were significant in the model, $F(4, 227) = 3.81, p = .01$ and accounted for 6.3% of the variation in youth report of decision making. However, child age was the only factor that significantly predicted youth decision making, with increases in youth decision making for unit increase (year) in age. The analyses revealed a trend for child gender, $p = .06$, with more decision making for boys than girls.

The addition of parent and youth reports of autonomy and relatedness at the second step explained an additional 16.9% of the variation in decision making, and the change in R^2 was significant $F(4, 223) = 12.26, p < .001$. In this second step, there was a positive significant association between youth report of parental autonomy support and decision making, $p < .001$. On the other hand, there was a negative significant association between youth report of family value relatedness and decision making, $p = .04$. Parent report of parental autonomy support,

however, was not significantly associated with youth decision making, $p = .49$. Similarly, parent report of family value relatedness was not associated with youth decision making, $p = .30$.

Finally, the addition of the interaction terms (the product of autonomy x relatedness) in the third step did not statistically explain any additional percent of the variation in decision making, $F(2, 221) = 0.54, p = .59$. The parent autonomy x relatedness interaction term was not associated with youth decision making, $p = .41$. The youth autonomy x relatedness interaction term was also not statistically significant, $p = .57$. This finding suggests no moderation effect between autonomy and relatedness and their association with decision making.

A person-centered approach to examining patterns of A-R in families. The second research question was, *How are autonomy support and relatedness configured within families? Are there particular patterns (profiles) in autonomy support and relatedness within the sample, and do these profiles differ in demographic characteristics or behavioral autonomy (decision making)?* As described in the analysis plan, a two-step strategy was used to identify clusters by first conducting hierarchical cluster analysis followed by confirmatory non-hierarchical cluster analysis.

Exploratory cluster analysis. The exploratory Ward's cluster analysis revealed a three cluster solution based on the change in the squared Euclidean distance of 104.67 (from 538.09 to 433.32) and review of the dendrogram. The large change in distance coefficients and visual inspection of the dendrogram determined the three cluster result to be the appropriate solution. Cluster 1 ($n = 79$; 34%) consisted of families with mostly high parent and youth report of autonomy support and relatedness (three out of four measures), Cluster 2 ($n = 65$; 28%) consisted of families with mostly low parent and youth reports of autonomy support and relatedness (three

out of 4 measures), and Cluster 3 ($n = 88$; 38%) consisted of families with moderate to high autonomy support and low to moderate relatedness.

In order to examine the demographic makeup of the clusters, non-parametric tests were conducted for non-continuous variables. A chi-square test revealed no relationship between cluster membership and child gender, $\chi^2(2, N = 232) = 3.69, p = .16$. A chi-square test did reveal, however, an association between race/ethnicity and cluster membership, as there were more families of Hispanic/Latino background in Cluster 2, and fewer than expected European Americans in Cluster 2, $\chi^2(2, N = 232) = 14.49, p = .006$.

Analysis of Variance (ANOVA) was conducted to examine differences between the three clusters on continuous demographic variables (child's age, parent's years of education, family total annual income). As shown in Table 7, there were no significant differences in child age by cluster, $F(2, 229) = 0.31, p = .74$. Clusters did differ on parent education, $F(2, 229) = 5.50, p = .005$, with parents in Cluster 1 having more years of education than Cluster 2. However, there were no differences on total family income by cluster, $F(2, 229) = 1.31, p = .27$. ANOVAs were also conducted to examine differences between the three clusters on the four variables used in the hierarchical cluster analysis and on youth reports of decision making (see Table 7).

Table 7

Mean Differences in Continuous Demographic and Construct Variables by Cluster (Hierarchical)

	Overall Sample	By Cluster		
	Mean (SD)	Cluster 1 (<i>n</i> = 79)	Cluster 2 (<i>n</i> = 65)	Cluster 3 (<i>n</i> = 88)
Child Age	15.83 (1.19)	15.91 (1.26) ^a	15.77 (1.26) ^a	15.80 (1.06) ^a
Parent Education (Years)	13.71 (4.56)	14.28 (4.03) ^a	12.15 (4.19) ^b	14.36 (5.01) ^a
Autonomy Support (Parent)	3.86 (0.67)	3.94 (0.57) ^a	3.33 (0.63) ^b	4.18 (0.53) ^c
Relatedness (Parent)	3.99 (0.75)	4.14 (0.55) ^a	3.74 (0.98) ^b	4.03 (0.68) ^a
Autonomy Support (Youth)	3.65 (0.80)	4.21 (0.48) ^a	2.76 (0.64) ^b	3.80 (0.55) ^c
Relatedness (Youth)	3.79 (0.82)	4.52 (0.38) ^a	3.66 (0.72) ^b	3.23 (0.67) ^c
Decision Making (Youth)	3.72 (0.64)	3.84 (0.57) ^a	3.43 (0.59) ^b	3.84 (0.67) ^a

Note: a, b, c = Means with different superscripts differ at $p \leq .05$ based on Tukey's HSD post hoc paired comparisons.

There was a significant difference on parent reports of parental autonomy support by cluster membership, $F(2, 229) = 40.41, p < .001$, and post-hoc tests show that all groups were significantly different from each other, all $ps < .01$. There was also a significant difference in parental reports of value relatedness by cluster membership, $F(2, 229) = 5.70, p = .004$, and post-hoc tests revealed that Cluster 1 and Cluster 3 had higher relatedness scores than Cluster 2. There were also significant cluster differences on the youth report of parental autonomy support, $F(2, 229) = 122.24, p < .001$, with post-hoc tests revealing significant differences across all groups, $p < .001$. There was a significant difference in youth reports of relatedness by cluster membership, $F(2, 229) = 98.46, p < .001$, and post-hoc also revealed that all clusters were different from each other. Lastly, ANOVAs were also conducted to determine if clusters differed on levels of youth report of decision making. The clusters were significantly different from each other, $F(2, 229) = 9.75, p < .001$. Overall means on parent and youth reports of autonomy support and relatedness by cluster are presented in Figure 2. Post-hoc tests revealed that both Cluster 1 and Cluster 3 had higher levels of youth decision making than Cluster 2, all $ps < .001$.

Additional analyses with paired sample t-tests were used to examine within-cluster differences on construct reports. Differences were first examined within individuals (e.g., parent report of autonomy support and parent report of relatedness); afterwards, differences were examined within parent-child dyads (e.g., parent report of autonomy support and youth report of autonomy support). For Cluster 1, parent reports of autonomy support ($M = 3.95, SD = 0.57$) were significantly lower than parent reports of relatedness ($M = 4.14, SD = .55$), $t(79) = -2.19, p = .03$. Similarly, youth reports of autonomy support ($M = 4.21, SD = 0.48$) were significantly lower than youth reports of relatedness ($M = 4.52, SD = 0.38$), $t(79) = -4.65, p < .001$. For the within-dyad comparisons, parent report of autonomy support ($M = 3.94, SD = 0.57$) was

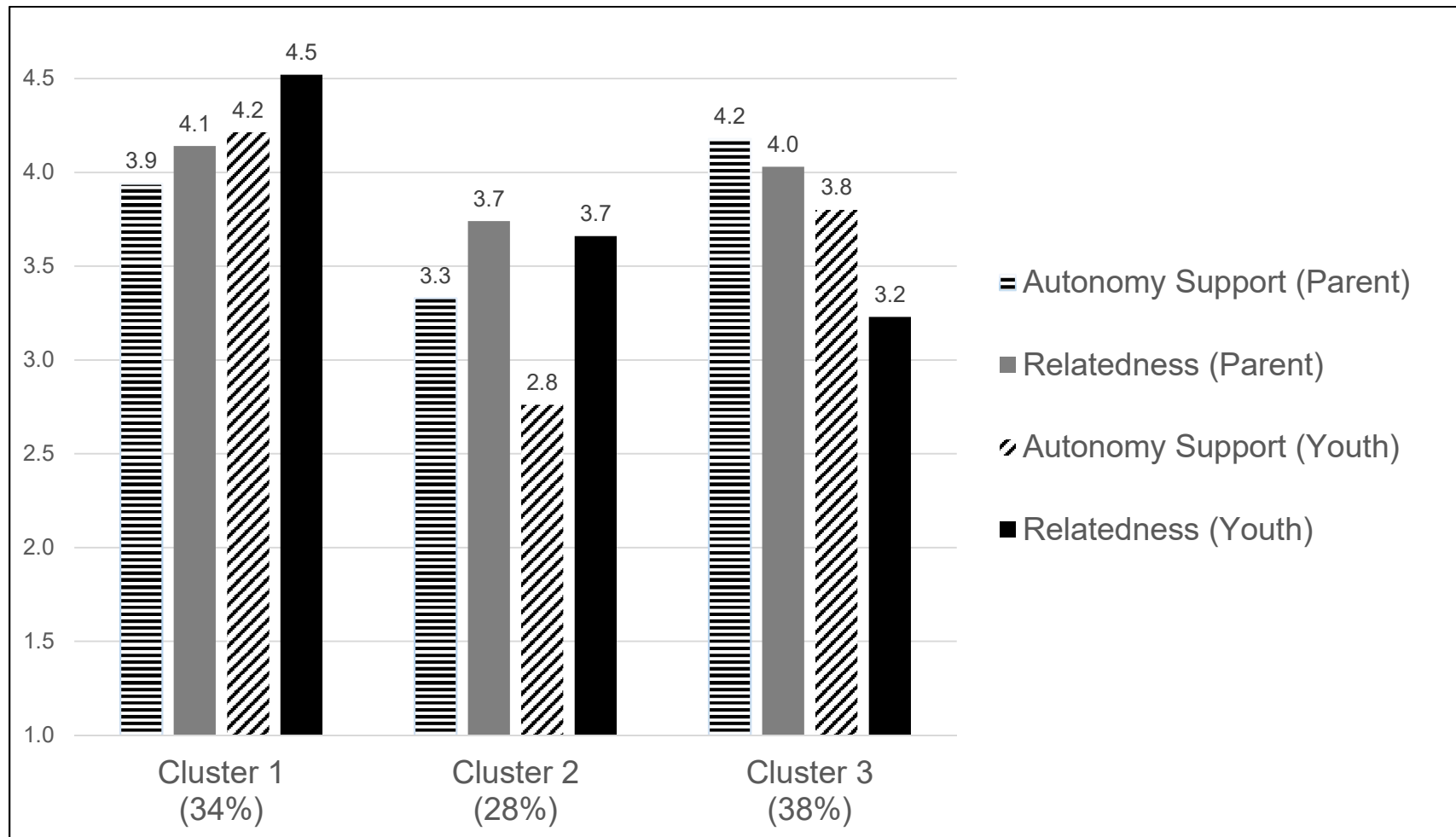
significantly lower than youth report of autonomy support ($M = 4.21$, $SD = 0.48$), $t(79) = -3.74$, $p < .001$. Similarly, for the relatedness measure, parent reports ($M = 4.14$, $SD = .55$) were significantly lower than youth reports ($M = 4.52$, $SD = .38$), $t(79) = -4.46$, $p < .001$.

For Cluster 2, parent reports of autonomy support ($M = 3.33$, $SD = 0.63$) were significantly lower than parent reports of relatedness ($M = 3.74$, $SD = 0.98$), $t(65) = -2.66$, $p = .01$. For the youth reports, autonomy support ($M = 2.76$, $SD = .64$) was significantly lower than relatedness ($M = 3.66$, $SD = 0.72$), $t(65) = -8.41$, $p < .001$. For the within-dyad comparisons, parent report of autonomy support ($M = 3.33$, $SD = 0.63$) was significantly higher than youth report of autonomy support ($M = 2.76$, $SD = 0.64$), $t(79) = 4.95$, $p < .001$. For relatedness, however, there were no significant differences between parent reports ($M = 3.74$, $SD = .98$) and youth reports ($M = 3.66$, $SD = .72$), $t(65) = .51$, $p = .61$.

For Cluster 3, parent reports of autonomy support ($M = 4.18$, $SD = 0.53$) did not differ significantly from parent reports of relatedness ($M = 4.03$, $SD = 0.68$), $t(88) = 1.84$, $p = .07$. For the youth reports, autonomy support ($M = 3.80$, $SD = .55$) was significantly higher than relatedness ($M = 3.23$, $SD = 0.67$), $t(88) = 6.11$, $p < .001$. For the within-dyad comparisons, parent reports of autonomy support ($M = 4.18$, $SD = 0.53$) were significantly higher than youth reports of autonomy support ($M = 3.80$, $SD = 0.55$), $t(88) = 4.18$, $p < .001$. Similarly, parent reports of relatedness ($M = 4.03$, $SD = .68$) were significantly higher than youth reports ($M = 3.32$, $SD = .67$), $t(88) = 8.05$, $p < .001$.

Figure 2

Means on Autonomy and Relatedness by Cluster Membership (Ward's)



Confirmatory cluster analysis. As discussed in the analysis plan, k-means clustering was conducted using a three cluster solution to test the replicability and appropriateness of the results from Ward's method. Based on ANOVA analyses, overall patterns were observed between the 3 clusters on the construct variables. Cluster 1 ($n = 108$; 47%) consists of families with mostly high parent and youth report of autonomy support and relatedness (three out of four measures), Cluster 2 ($n = 51$; 22%) consists of families with mostly low parent and youth reports of autonomy support and relatedness (three out of 4 measures), and Cluster 3 ($n = 73$; 31%) consisted of families with moderate to high autonomy support and low to moderate relatedness.

In order to examine the demographic makeup of the clusters, non-parametric tests were conducted for categorical variables. A chi-square test revealed no association between cluster membership and gender, $\chi^2(2, N = 232) = 1.91, p = .38$. Race/ethnicity and cluster membership were related; there were more families of Hispanic/Latino background in Cluster 2, and fewer than expected European Americans in Cluster 2, $\chi^2(2, N = 232) = 17.40, p = .002$.

As was previously done with the hierarchical clusters, Analysis of Variance (ANOVA) was conducted to examine differences between the three clusters on continuous demographic variables (child's age, parent's years of education, family total annual income) and construct variables for the k-means clusters (see Table 8).

Table 8

Mean Differences in Continuous Demographic and Construct Variables by Cluster (K-means)

	Overall Sample	By Cluster		
	Mean (SD)	Cluster 1 (<i>n</i> = 108)	Cluster 2 (<i>n</i> = 51)	Cluster 3 (<i>n</i> = 73)
Child Age (Years)	15.83 (1.19)	15.81 (1.23) ^a	15.88 (1.21) ^a	15.82 (1.12) ^a
Parent Education (Years)	13.71 (4.56)	14.21 (4.17) ^a	12.28 (4.55) ^b	13.98 (4.96) ^{a, b}
Autonomy Support (Parent)	3.86 (0.67)	3.93 (0.57) ^a	3.37 (0.59) ^b	4.11 (0.57) ^a
Relatedness (Parent)	3.99 (0.75)	4.21 (0.58) ^a	3.33 (0.84) ^b	4.10 (0.66) ^a
Autonomy Support (Youth)	3.65 (0.80)	4.02 (0.65) ^a	2.76 (0.72) ^b	3.72 (0.57) ^c
Relatedness (Youth)	3.79 (0.82)	4.44 (0.40) ^a	3.54 (0.63) ^b	2.99 (0.54) ^c
Decision Making (Youth)	3.72 (0.64)	3.73 (0.59) ^{a, b}	3.54 (0.55) ^b	3.85 (0.74) ^a

Note: a, b, c = Means with different superscripts differ at $p \leq .05$ based on Tukey's HSD post hoc paired comparisons.

There were no differences in child age by cluster, $F(2,229) = 0.07, p = .93$. In terms of education, parents in Cluster 1 had more years of education than Cluster 2, $F(2,229) = 3.33, p = .038$, but there were no differences in total family income by cluster, $F(2,229) = 0.43, p = .65$. There was a significant difference in parental reports of autonomy support by cluster membership, $F(2, 229) = 22.35, p < .001$, and post-hoc tests showed that Cluster 1 and Cluster 3 had higher scores than Cluster 2, $p < .001$. There were also a significant difference in parental reports of relatedness by cluster membership, $F(2, 229) = 31.95, p < .001$, and post-hoc tests revealed a similar pattern with Clusters 1 and 3 with higher scores than Cluster 2, $p < .001$. For youth report of parental autonomy support, there were also significant differences by cluster membership, $F(2, 229) = 68.64, p < .001$, and post-hoc tests showed significant difference across all three clusters, $p < .01$. Cluster 1 had higher levels of parental autonomy support than Clusters 2 and 3, and Cluster 3 had higher levels than Cluster 2. Lastly, clusters were also different on youth report of relatedness, $F(2, 229) = 190.27, p < .001$, and post-hoc tests indicate differences between all three clusters. Cluster 1 had higher levels of relatedness than both Clusters 2 and 3, and Cluster 2 had higher levels than Cluster 3. Overall means on parent and youth reports of autonomy support and relatedness by cluster are presented in Figure 3.

As was done with the hierarchical clusters, additional analyses with paired sample t-tests were used to examine within-cluster differences on construct reports for the k-means clusters. Differences were first examined within individuals (e.g., parent report of autonomy support and parent report of relatedness); afterwards, differences were examined within parent-child dyads (e.g., parent report of autonomy support and youth report of autonomy support). For Cluster 1, parent reports of autonomy support ($M = 3.93, SD = 0.65$) were significantly lower than parent reports of relatedness ($M = 4.22, SD = .58$), $t(108) = -3.16, p = .002$. Similarly, youth reports of

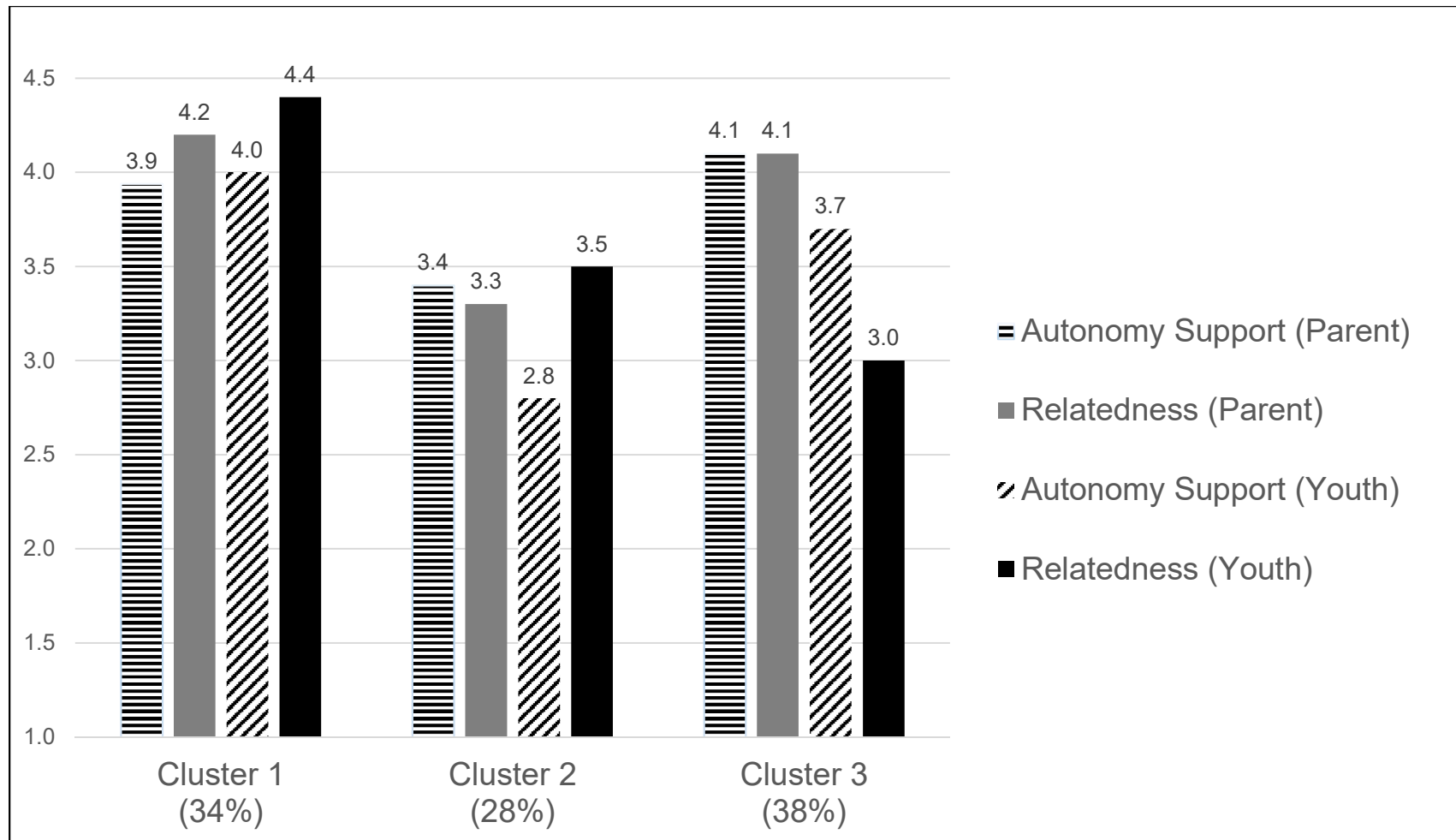
autonomy support ($M = 4.02$, $SD = 0.64$) were significantly lower than youth reports of relatedness ($M = 4.45$, $SD = 0.40$), $t(108) = -5.83$, $p < .001$. For the within-dyad comparisons, parent report of autonomy support ($M = 3.93$, $SD = 0.65$) was not significantly different from youth report of autonomy support ($M = 4.02$, $SD = 0.64$), $t(108) = -1.20$, $p = .23$. However, for the relatedness measure, parent reports ($M = 4.22$, $SD = .58$) were significantly lower than youth reports ($M = 4.45$, $SD = .40$), $t(108) = -3.16$, $p = .002$.

For Cluster 2, parent reports of autonomy support ($M = 3.37$, $SD = 0.59$) were not significantly different from parent reports of relatedness ($M = 3.33$, $SD = 0.84$), $t(51) = 0.28$, $p = .78$. However, youth report of autonomy support ($M = 2.76$, $SD = .72$) was significantly lower than youth report of relatedness ($M = 3.54$, $SD = 0.63$), $t(51) = -6.60$, $p < .001$. For the within-dyad comparisons, parent report of autonomy support ($M = 3.37$, $SD = 0.59$) was significantly higher than youth report of autonomy support ($M = 2.76$, $SD = 0.72$), $t(51) = 5.24$, $p < .001$. For relatedness, however, there were no significant differences between parent reports ($M = 3.33$, $SD = .84$) and youth reports ($M = 3.66$, $SD = .72$), $t(51) = -1.32$, $p = .19$.

For Cluster 3, parent reports of autonomy support ($M = 4.11$, $SD = 0.57$) did not differ significantly from parent reports of relatedness ($M = 4.10$, $SD = 0.66$), $t(73) = 0.06$, $p = .96$. However, for youth reports, autonomy support ($M = 3.72$, $SD = .57$) was significantly higher than relatedness ($M = 2.99$, $SD = 0.54$), $t(73) = 7.67$, $p < .001$. For the within-dyad comparisons, parent reports of autonomy support ($M = 4.10$, $SD = 0.57$) were significantly higher than youth reports of autonomy support ($M = 3.72$, $SD = 0.57$), $t(73) = 3.92$, $p < .001$. Similarly, parent reports of relatedness ($M = 4.10$, $SD = .66$) were significantly higher than youth reports ($M = 2.99$, $SD = .54$), $t(73) = 11.49$, $p < .001$.

Figure 3

Means on Autonomy and Relatedness by Cluster Membership (k-means)



Comparison of cluster solutions. The patterns that emerged from the previously presented analyses indicate that the clusters are largely consistent across the Ward's and k-means method. For example, Cluster 1 had significantly higher parental report of relatedness, child report of parental autonomy support, and child report of relatedness from Cluster 2 across both techniques. Similarly, Cluster 3 had moderate levels of both child report of parental autonomy support and child report of value relatedness compared to Cluster 1 and Cluster 2 across Ward's and the k-means method.

Observation of cluster membership revealed that 82.8% of families were classified in the same clusters across both methods. The Ward's technique generated a smaller Cluster 1 ($n = 78$) than the k-means method ($n = 108$). The majority of the shift in cluster membership was due to the families that were previously in Cluster 2 or 3 in the Ward's method being placed into Cluster 1 in the k-means method ($n = 30$). However, the majority of cases remained in the same clusters across methods, and the similar patterns in both the ANCOVA mean differences and patterns in demographics in the non-parametric tests do appear to show verification of the clusters across methods. This approach of comparing multiple clustering techniques to test validity, referred to as confirmatory cluster analysis, has been documented in family studies literature (Henry et al., 2005). For example, a study by Fisher and Ransom (1995) to develop family health typologies similarly used Ward's method for their hierarchical clustering technique and k-means to confirm clusters. The authors reported a 73% overlap between the two methods, which was deemed sufficient. Based on these criteria, the 82.8% of overlap between clustering support the validation and confirmation of the results from Ward's method in this study. As previously mentioned in the analysis plan, the same confirmatory cluster analysis was used with a 4 cluster hierarchical and k-means clustering method; but this yielded a lower overlap (72.1%)

than the 3 cluster solution. The hierarchical 4 cluster solution was somewhat similar to the 3 cluster solution in terms of patterns of parent and youth report of autonomy support and relatedness. While Clusters 1 ($n = 78$) and 3 ($n = 89$) remained approximately the same size, Cluster 2 separated into two smaller clusters. The majority of Cluster 2 members remained in Cluster 2 ($n = 50$), and a relatively small number ($n = 15$) were categorized as a new cluster (Cluster 4). Cluster 4 appeared to be distinct due to a large discrepancy between parent and youth reports of relatedness. However, the small size and difficulty of interpreting this cluster, along with the lower overlap between hierarchical and k-means clustering techniques led to the determination that the initial 3-cluster solution was the best solution based on empirical and conceptual grounds. The identification of these 3 distinct clusters and their implications for theory are examined in the following discussion.

Chapter 5: Discussion

Autonomy, family relatedness, and decision making are central issues for families with adolescent children. Many different theories and perspectives within the field of psychology and family studies have examined these constructs among a variety of populations. Traditionally, these issues have typically been examined through cross-cultural studies comparing youth from different countries on these constructs, and broad generalizations are made to describe adolescents from different cultures or countries. For example, studies usually find that youth from Western countries that emphasize “independence” are more autonomous or have higher levels of decision making than youth from more collectivist countries such as those in Asia. However, countries like the United States are undergoing drastic demographic shifts, and few studies have actually examined issues of autonomy, relatedness, and decision making within this increasingly diverse country. This current study builds on past work that has examined these issues to explore how autonomy, family relatedness, and decision making appear and are configured in a within-culture sample that is racially/ethnically diverse. This discussion section will examine these issues in the following way. First, the findings describing autonomy, relatedness, and decision making in a diverse sample within the U.S. will be discussed. Next, reflection on how different analytic approaches can be applied to examining these constructs will be discussed. Following this, limitations of the study and possible future directions are suggested. Lastly, a summary of the overall findings and conclusions will be provided.

Autonomy, Relatedness, and Decision Making in Diverse Families

Findings from this study indicate that there are differences among racial/ethnic groups within the U.S. on parental socialization of both autonomy support and family relatedness. For example, it appears that European American parents practice more autonomy support (promotion

of volitional functioning) with their adolescent children than both Latino and African American parents. This finding in the comparison for European and Latino American parents is perhaps in line with previous work (e.g., Stewart et al., 1999) that finds families from more “independent” cultures (e.g., European American) may emphasize and support more autonomy than parents from other cultures, as the majority of Latino parents in this study were born outside the U.S. and may not hold as strong attitudes towards autonomy as U.S. born parents. The finding that African American parents had lower levels of autonomy support than European American parents but the same as Latino American parents represents a novel contribution to the literature on issues of autonomy within African American families. Authors like Smetana and Gettman (2006) have noted the limited research on autonomy within African American families, and these comparisons can provide insight on how these parents are similar and/or are dissimilar with other groups within the U.S. However, it is very important to note that the overall mean levels of autonomy support were high (all above the center point of the scales with some cases near the higher end) across all race/ethnic groups, which suggest that parents across racial and ethnic groups in the U.S. do emphasize and provide autonomy support for their adolescent children.

The findings also indicate that there are differences in parents’ attitudes and values regarding family relatedness (respect, compliance, and interdependence for and with parents) among racial/ethnic groups within the U.S. In particular, African American parents endorsed the highest levels of family relatedness, and there were no differences between Latino and European American parents. These findings support previous research that has linked an emphasis towards family relatedness/interdependence within more collectivist cultures or groups. For example, a meta-analytic study of cultural orientations in the U.S. found that African Americans scored higher in collectivism than European Americans, while Latino Americans scored the same as

European Americans (Oyserman et al., 2002). These findings are supportive of previous perspectives and work from the cross-cultural field and scholars such as Kağıtçıbaşı (2005) who have drawn links between collectivism and family relatedness/interdependence. It is important to note again, however, that the overall means for relatedness were high across of the clusters, which suggests that family relatedness is an important construct for all families, even within those that may be viewed as traditionally independent.

The availability of dyadic data that includes child reports allows for an additional understanding of the dynamics of autonomy, relatedness, and decision making that is not captured from parent-only reports. The findings from the child data paint a similar but also somewhat different picture of autonomy support within families. European American youth reported higher levels of parental autonomy support than the other groups, which shows a connection with their parents who also reported the highest levels. However, in contrast to the parent data, African American youth reported higher levels of parental autonomy support than Latino American youth, whereas their parents reported the same levels. It is unknown why there is this difference between the parent and youth perceptions in this current study. However, other studies with dyadic data have also found discrepancies between parent and child reports, possibly due to differences in perceptions between family members (Smetana et al., 2004). In addition, other reasons for discrepancies may be unique to certain racial/ethnic groups. For example, it is possible that there is a discrepancy between Latino American parent and child perceptions of the levels of autonomy support within their families. One possible explanation could be acculturation gaps between parents and children within Latino American families. As noted earlier, many Latino parents were immigrants, and immigrant parents tend to adapt to a new host culture more slowly than their children (Lau, McCabe, Yeh, Gardland, Wood, & Hough, 2005).

It could be that their perception of what is considered high autonomy support may differ from their children's perception. Moreover, the child's perception of what is normative may be shaped by social comparisons to other non-Latino peers who may experience high levels of autonomy support such as the European American peers in this sample. When examining youth reports of family relatedness, there were no differences by race/ethnicity. Unlike the parents, African American youth did not report higher levels of family relatedness than the others. Again, however, mean levels of these constructs across all groups were moderate to high, which shows that both autonomy support and relatedness may be universally valued by most youth.

For the final construct examined, decision making, there were no differences across ethnic groups. However, it was discovered that decision making did differ by clusters based on parent and youth attitudes regarding autonomy support and relatedness. This suggests that family patterns of endorsement (what profile families were classified as) may be better indicators or predictors of decision making than race/ethnicity. Based on the overall mean scores, we can also state that the adolescents in our sample had moderate to high levels of agency in their decision making, the kind that reflects a decision making process that incorporates youth input (e.g., joint or youth-led). This finding is important in being able to establish generalizations on how the decision making process may or may not differ for many adolescents the U.S., as there has been limited work comparing youth across different race/ethnic groups within cultures or countries.

As covered in this study's literature review, there have been mixed findings in regards to gender and its impact on issues such as autonomy, relatedness, and decision making. It was found that there were no constructs where main or interaction effects were found for gender. However, a trend was discovered that indicates a possibility that boys may have higher levels of decision making within our sample. It is possible that this detected trend supports findings that

boys are socialized to be more independent than girls (Fousiani et al., 2014), but such a definitive statement cannot be made from this current study's findings. Future studies that have larger samples (for more statistical power) may be able to detect gender differences if they exist.

Methods of Examining Autonomy, Relatedness, and Decision Making

Another goal and contribution of this study is the usage of different methodological approaches to study these issues of A-R and decision making within a diverse U.S. sample. The usage of multiple methodologies allows for a comparison of methods and the possibility of approaching different conclusions based on varying results. Traditionally studies that have looked at constructs such as A-R and decision making have used variable-centered approaches that utilize statistical analyses such as regression analysis or structural equation modeling (Soenens et al, 2007; Van Petegem et al., 2013). Such approaches allow scholars to understand the nature of the associations between these constructs, and provide insight into how factors such as demographics may influence said associations. Although previous studies have utilized similar analyses as the ones conducted in this study, few have used within culture/country samples that are racially/ethnically diverse.

Analyses utilizing a variable-centered approach (hierarchical multiple regression) revealed associations similar to those found in previous studies. For example, age was a significant predictor of youth reports of decision making, which reflects the well-documented process that as youth grow older, they are afforded more agency or input into the decision making process within their families (Buhl, 2008; Dornbush et al., 1990). In addition, youth report of parental autonomy support was positively associated with decision making. This is perhaps a fairly logical outcome as it would be expected that youth who perceive their parents to be supportive of autonomy would be more likely to have more input in behavioral autonomy

(Fousiani et al., 2014). It was also found that youth reports of family relatedness were inversely associated with decision making. This finding suggests that youth who are more interdependent with their family are more limited in their amounts of decision making agency or input. This finding is also consistent with cross-cultural research that links relatedness and interdependency with less choice on issues of autonomy (Iyengar & Lepper, 1999). The findings here also support the cross-cultural literature that has posited that these two constructs are independent (Kağıtçıbaşı, 2006), and the findings from this current study indicated that both the youth reports of autonomy and relatedness independently predicted youth's decision making.

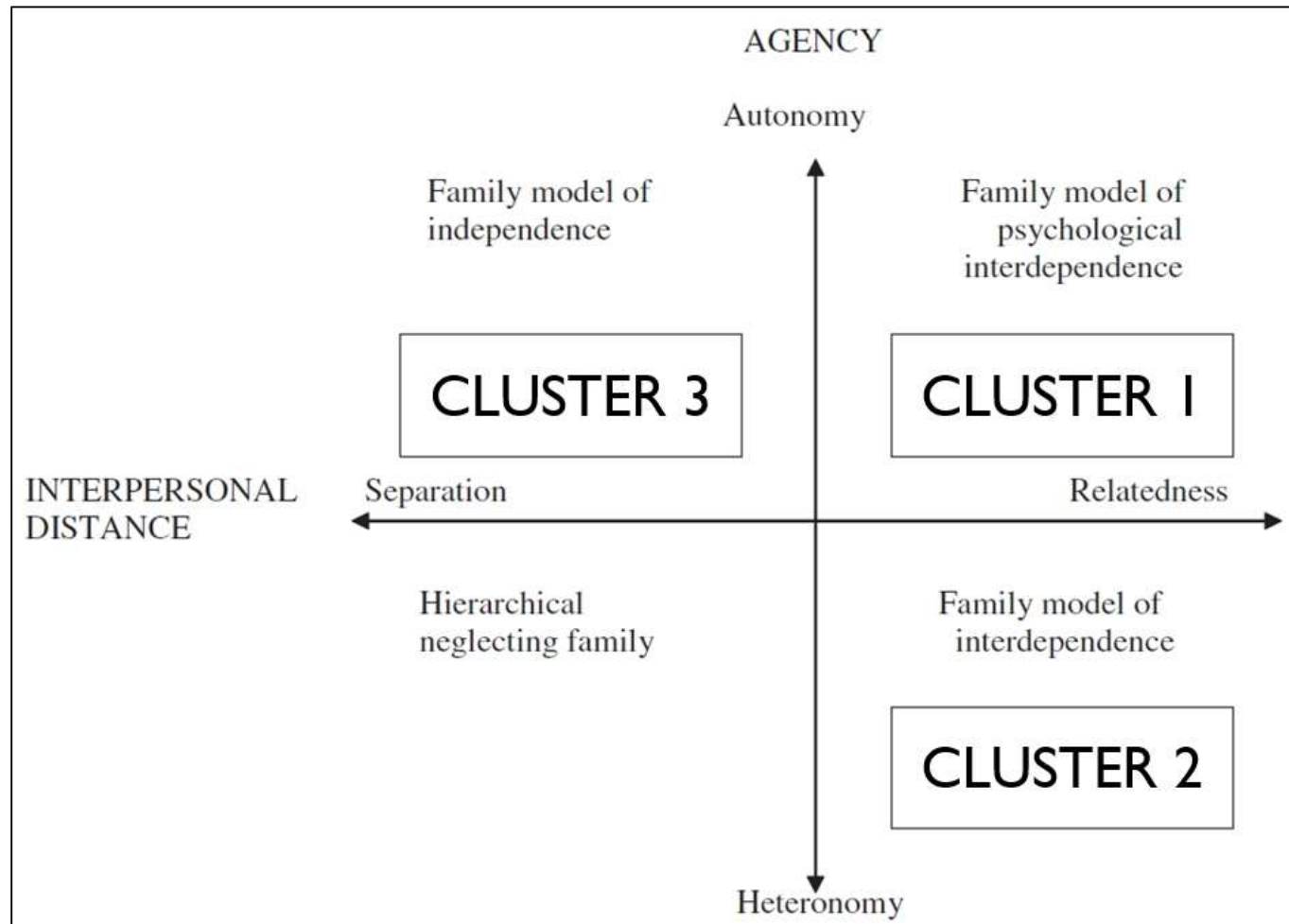
A person/family-centered approach was used to examine the configurations of A-R using dyadic reports from parent and child. Unlike the variable-centered approach, this person-centered methodology attempted to identify groups of similar individuals (clusters) based on the continuous variables of parent and child report of autonomy support and relatedness. Two forms of this person-centered approach, hierarchical cluster analysis and k-means cluster analysis, were used for these analyses. The results from the hierarchical method identified 3 clusters that had varying configurations of parent and child reports of autonomy support and family relatedness. The first cluster (Cluster 1) was defined by mostly moderate to high reports on both autonomy and relatedness by parent and youth. The next cluster (Cluster 2) was defined by mostly low to moderate reports of both autonomy support and relatedness from both parent and youth report. The last cluster (Cluster 3) consisted of families with moderate to high autonomy support and low to moderate relatedness. A k-means clustering technique was used to confirm the results from the hierarchical clusters, and it was found that the overlap between the two methods was sufficient to confirm and verify the results from the hierarchical clustering method.

One of the goals of using this exploratory person-centered methodology was to examine if the resulting clusters reflected profiles that have been proposed by Kağıtçıbaşı (2007), who conceptualized A-R to be independent constructs (see Figure 1, pg. 16). Based on the results of the person-centered approach, it is possible to say that there is some reflection of those proposed profiles in these clusters. In addition, it was observed that although some clusters were dissimilar in patterns of A-R (e.g., Cluster 1 and Cluster 3), they did not differ in levels of decision making. This lack of differences may in some way support what has been proposed by Kağıtçıbaşı and others who have posited both autonomy and relatedness to be compatible. For example, previous perspectives that view relatedness to be incompatible with autonomy would claim that high levels of decision making would not be present in families with high levels of relatedness. However, we found that Cluster 1 has the highest levels of relatedness. Moreover, youth reports show that Cluster 1 had the highest reports of autonomy as well, further demonstrating compatibility between the two constructs.

With integration of additional information from the variable-centered regression analyses, a somewhat clear mapping of the clusters onto Kağıtçıbaşı's (2005) model can be made (see Figure 4). In particular, the regression models revealed that the child reports of autonomy support and family relatedness were the strongest predictors and explained the most variance among all variables. By utilizing the child reports from the clusters, we can see that Cluster 1 is high in both autonomy support and relatedness, and this resembles the Autonomous-Related Self. On the other hand, adolescents in Cluster 2 report low autonomy support and moderate levels of relatedness, which resemble the Heteronomous-Related Self. Cluster 3's child reports indicate moderate autonomy support and low relatedness, which reflect the Autonomous-Separate Self.

Figure 4

Mapping of Hierarchical Clusters on Kağıtçıbaşı's Model



The findings from this study reflect some similarity to clusters identified in other studies. For example, Smetana and Gettman (2006) identified African American adolescents with about equal levels of both autonomy and relatedness (similar to Cluster 1 in this study), as well as youth that had low autonomy but higher relatedness (similar to Cluster 2 in this study). In summary, this aspect of the study provides initial empirical support for Kağıtçıbaşı's orthogonal model of self based on autonomy and relatedness with a diverse sample within the context of the U.S.

Limitations and Future Directions

There are several limitations worth mentioning. First, although the study sample was racially/ethnically diverse, there were group differences in demographic characteristics. It was found that European American families were higher in SES than the African American and Latino American families in indicators such as years of education and total annual income. Latino parents were also more likely to be immigrants compared to European and African American families. Therefore, any conclusions and generalizations of the findings of this study in regard differences and/or trends based on race/ethnicity are rather limited (e.g., lower SES Latino American families compared to higher SES European Americans). To address this limitation, future studies can try to recruit samples that have more variability in terms of SES within ethnic groups (e.g., by purposively recruiting middle or higher SES Latino and African American families). Although this is noted as a limitation, it can also be viewed as a strength of the study, as these sample characteristics do reflect the general trends within the U.S. population. For example, the U.S. Census, which reports on educational attainment and distribution of wealth and assets in the U.S., finds that European Americans are more likely to have higher levels of education and have more financial resources and capital than both Latino and African Americans, which is reflected within this sample (U.S. Census Bureau, 2015).

Another limitation to the study is its cross-sectional design. Changes between parent-child relationships on issues of autonomy and relatedness are developmental processes that occur through time, and the cross-sectional design of the current study was unable to detect longitudinal changes across time. Longitudinal data from the Pathways Project are available for future studies, which will build upon this study.

Other limitations relate to the methodology and findings. First, in the variable-centered analyses, aside from age, only the youth reports of autonomy and relatedness were statistically associated with the outcome of decision making, but parent reports were not. Future studies can address this by adapting or creating parent scales that can better predict youth reports of decision making, as well as identify other salient factors (e.g., other demographic factors) that are associated with A-R and that predict decision making. By being able to detect both parent and child influences on decision making, a more complete and holistic understanding of family dynamics surrounding these issues can be attained. Another consideration is the need for scholars to identify other scales or metrics that capture alternative conceptualizations of autonomy and relatedness that have been proposed in the literature. The current study used existing data, which meant that there was no opportunity to incorporate additional measures. For example, SDT scholars have proposed a form of relatedness that is not necessarily the same as the conceptualization from the cross-cultural literature utilized in this study (Ryan & Deci, 2000). This form of relatedness from the SDT literature does not emphasize or reflect interdependency, but rather it focuses on a desire to interact, connect to, and care for others. This alternate view of relatedness may be a necessary consideration for future studies that attempt to study the associations between A-R and other variables of interest.

Despite these limitations, this study contribute to the theoretical and empirical literature on A-R and provide a framework that can be used and adapted for future work. Usage of different methodologies (e.g., variable- and person-centered) allowed for alternative approaches to examine the same constructs from different perspectives to potentially answer different questions. The variable-centered approach allowed for a traditional examination of the association between key variables (e.g., demographics, construct) to predict levels of decision making. In contrast, the person-centered approach allowed for an identification of group membership based on varying levels of endorsement of our key construct variables that offer support for theories and frameworks that have been proposed that required further empirical evidence. The implementation and integration of this two methods allows for a potentially more encompassing understanding of the nature of autonomy and relatedness within families than if they were utilized alone.

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Appendix A: Autonomy Support Measure for Parents and Youth

Parent Report of Volitional Support

Please indicate how well each statement describes your behavior toward your child.	Strongly Disagree	Disagree	In The Middle	Agree	Strongly Agree
1. I let my child plan for things s/he wants to do	1	2	3	4	5
2. I am usually willing to consider things from my child's point of view	1	2	3	4	5
3. Whenever possible, I allow my child to choose what to do	1	2	3	4	5
4. I allow my child to decide things for him/herself	1	2	3	4	5

Youth Report of Volitional Support

My parent(s) ...	Strongly Disagree	Disagree	In The Middle	Agree	Strongly Agree
1. Let me make my own plans for things I want to do	1	2	3	4	5
2. Are usually willing to consider things from my point of view	1	2	3	4	5
3. Whenever possible, allow me to choose what to do	1	2	3	4	5
4. Allow me to decide things for myself	1	2	3	4	5

Appendix B: Relatedness Measure for Parents and Youth

Parent Report of Relatedness

Ask yourself: How IMPORTANT is it for your child:	Not at all	A little	Some what	Quite A lot	Very Much
1. To do what you want him/her to do even when he/she does not agree with you?	1	2	3	4	5
2. To consult with you before making important decisions?	1	2	3	4	5
3. To show respect for you (e.g., by not arguing with you)?	1	2	3	4	5

Youth Report of Relatedness

Ask yourself: How IMPORTANT is it for me:	Not at all	A little	Some what	Quite a lot	Very much
1. To do what my parents want me to do even when I do not agree with them?	1	2	3	4	5
2. To consult with my parents before making decisions?	1	2	3	4	5
3. To show respect for my parents (e.g., by not arguing with them)?	1	2	3	4	5

Appendix C: Decision Making Measure for Youth

Behavioral Autonomy – Youth Report of Decision Making

Prompt: Families have different ways of making decisions about different things. Thinking back over the **last 2 months**, indicate how decisions about each of these things are made in your family.

	My parent(s) leave the decision making entirely up to me	My parent(s) leave the decision up to me after discussing it	We make the decision together	My parent(s) ask my opinion but make the final decision	My parent(s) decide without discussing it with me
1. What chores to do around the house	1	2	3	4	5
2. How to dress (what clothes to wear)	1	2	3	4	5
3. How to spend your money	1	2	3	4	5
4. How late you can stay out at night	1	2	3	4	5
5. Which friends you spend time with	1	2	3	4	5
6. What TV shows you watch and internet sites you visit	1	2	3	4	5
7. How to spend your free time	1	2	3	4	5
8. Dating (e.g., whether you can go out with someone)	1	2	3	4	5
9. Whether you have to go on family visits or outings	1	2	3	4	5
10. Whether you have to take part in religious activities (e.g., church, worship)	1	2	3	4	5
11. Whether you join or go to after-school activities	1	2	3	4	5