Published in final edited form as:

Child Dev. 2009 ; 80(2): . doi:10.1111/j.1467-8624.2009.01269.x.

Heterogeneity and Change in the Patterning of Adolescents' Perceptions of the Legitimacy of Parental Authority: A Latent Transition Model

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Abstract

Changes in the patterning of adolescents' beliefs about the legitimate domains of parental authority were modeled in 2,611 Chilean adolescents, 11–16 years old. Transitions in adolescents' belief patterns were studied over 3 years. Latent transition analysis (LTA) revealed 3 distinct patterns of beliefs—*parent control*, *shared control*, and *personal control*—that differed in the extent to which adolescents believed that parents had legitimate authority over personal, prudential, and multidomain issues. Younger adolescents with fewer problem behaviors, higher self-efficacy, and more parental rules were more likely to espouse the parent control belief pattern. Adolescents' patterning of beliefs was relatively stable over time. Older adolescents with more problem behaviors and fewer parental rules were most likely to move away from the parental control status.

As adolescents move from childhood dependence to adult autonomy, they claim ownership of their decision-making processes. One aspect of this transformation is a change in the aspects of adolescents' lives that they and their parents consider to be legitimately within the sphere of parent control or authority (Smetana, Crean, & Campione-Barr, 2005). Most research on adolescents' beliefs about the legitimacy of parental authority has focused on normative, age-related differences in how children and their parents reason about areas of conflict and parents' right to regulate different aspects of adolescent behavior (Smetana, 2006). Researchers working from the perspective of social-cognitive domain theory differentiate between how individuals reason about issues depending upon whether they are classified within the moral, conventional, or personal domains (Nucci, Killen, & Smetana, 1996; Turiel, 1983). Moral issues are defined as those governed by obligatory, universal, and impersonal principles, such as the use of aggression against others. In contrast, conventional issues concern relatively arbitrary, socially constructed rules, such as titles of address or dress codes. The personal domain is somewhat more complex, as it involves psychological constructions of the self. Within the personal domain are included issues that solely concern the actor, including beliefs about the self, choices about revealing personal

information (e.g., who can read your diary), choice of friends or recreation, and issues concerning personal safety. Safety-related issues are classed within the prudential domain and include issues such as alcohol use and smoking. Although the emphasis of this research has been on age-related changes in the patterning of beliefs, few studies have used models that explicitly model this patterning. The goal of the present study is to evaluate the longitudinal stability of the patterning of legitimacy beliefs over time and to examine individual differences in these patterns.

Research on legitimacy beliefs employing survey and interview techniques both within the United States and cross-culturally has resulted in strikingly consistent findings (e.g., Darling, Cumsille, & Peña-Alampay, 2005; Fuligni, 1998; Hasebe, Nucci, & Nucci, 2004; Nucci, Camino, & Sapiro, 1996; Smetana, Campione-Barr, & Daddis, 2005). Parents and adolescents both tend to endorse parent control of moral and conventional issues as legitimate. Because of the protective functions inherent to the parental role, they also tend to agree that it is legitimate for parents to control prudential issues. However, other personal issues, such as choice of friends, are seen to be outside the legitimate domain of parental authority. With age, both adolescents and their parents expand the number of issues they define as outside the legitimate domain of parental authority and subject to adolescents' self-governance. The sharpest contraction in adolescents' beliefs about parents' legitimacy occurs within the personal domain during early adolescence (Darling, Cumsille, & Martínez, 2008; Darling et al., 2005).

These normative changes have consequences for adolescent-parent relationships and for adolescent behavior. When adolescents disagree with their parents about a rule or issue, they are more likely to discuss it with parents if they also see it to be within the legitimate sphere of parental authority and feel obliged to obey their parents about that issue. When they disagree but choose not to fully disclose their disagreement, they are also less likely to lie directly to parents about it rather than to use more indirect forms of concealment, such as partial disclosure or avoidance (Darling, Cumsille, Caldwell, & Dowdy, 2006; Darling, Cumsille, Peña-Alampay, & Coatsworth, in press). Adolescents who believe they are obliged to disclose to parents, an aspect of their beliefs about parental legitimacy, are also more likely to disclose to parents (Smetana, Metzger, Gettman, & Campione-Barr, 2006). Adolescents do not typically cede authority to parents over their personal activities or over some moral issues. Adolescents consider lying about rule violations in these domains to be acceptable (Perkins & Turiel, 2007).

In addition to disclosure, which has implications for parents' ability to monitor and socialize adolescents, legitimacy beliefs have also been shown to influence adolescents' behavior, openness to socialization, and obedience (Darling, Cumsille, & Martínez, 2007). Adolescents who believe that their parents can legitimately set rules over a broader range of issues were more likely to obey parents overall. In addition, looking at situational differences in individuals' decisions to obey, adolescents were more likely to obey parents when they consider the issue in question to be legitimately within parental authority. Because these situational differences in obedience have been studied using a within-individual design, the findings strengthen the argument that differences in reasoning and behavior are a function of legitimacy beliefs rather than of person- or family-situated dispositions.

Despite the striking consistency of normative findings on adolescents' and parents' beliefs, substantial evidence exists for individual differences in the endorsement of legitimacy. For example, Yau and Smetana (2003) reported that only 51% of Hong Kong adolescents used personal reasoning to justify conflicts about choice of recreational activities (a prototypical example of the personal domain). Legitimacy beliefs also vary systematically by gender and

family structure, with girls from intact families and boys from divorced families more likely than their peers to endorse parental authority over personal and multidomain issues (Smetana, 1993). Lower socioeconomic status (SES) adolescents in both Brazil (Nucci, Camino, et al., 1996) and Chile (Cumsille, Darling, Flaherty, & Martínez, 2006) were more likely to endorse parental legitimacy over personal issues than their middle SES peers. Nucci, Guerra, and Lee (1991) also reported that early, middle, and late adolescents who were engaged in substance use were more likely to view substance use as within the personal, rather than prudential, domain and view their substance use practices as outside of legitimate parental control.

In a longitudinal study of Chilean youth, Darling et al. (2008) examined changes in adolescents' beliefs in the legitimacy of parental authority and their own obligation to obey over a 4-year period. Adolescents were asked whether or not they believed parents had the right to set rules (parental legitimacy) and whether they were obliged to obey parents (obligation to obey) about 20 issues that are common sources of parent-adolescent disagreement. Consistent with past research, adolescents were less likely to endorse parental authority over issues as they grew older. In this study, low-risk youth were defined as those who were low in problem behavior at Time 1 and reported their parents to be high in both monitoring and support. High-risk youth were high in problem behavior at Time 1 and reported parents to be low in both monitoring and support. The likelihood that youth in both groups endorsed parental legitimacy showed a similar decline with age. However, the starting point for this normative decline was strikingly different. For example, the breadth of issues high-risk youth ceded parents authority over at age 12 was similar to that ceded by low-risk youth at 17. Taken together, these findings suggest that there are large individual differences in adolescents' beliefs in the legitimacy of parental authority and that these differences have consequences for their behavior. These differences occur within an overarching pattern of normative age-related change.

A major limitation of most prior research on age-related changes in endorsement of parental legitimacy is a gap between the theoretical models on which research is based, the statistical models that test them, and the interpretations of those statistical models. Theoretical models focus on the normative, age-related expansion of the personal domain and the contraction of the legitimacy sphere of parental authority (e.g., Darling et al., 2008; Nucci, Killen, et al., 1996; Smetana, Crean, et al., 2005). Specifically, theoretical models assume that adolescents' endorsement of parental legitimacy (a) varies across domains and (b) extends over a smaller number of issues as youth grow older and more areas of their lives are defined within the personal sphere. However, few studies have examined adolescents' legitimacy beliefs longitudinally (see Darling et al., 2008; Smetana, Campione-Barr, et al., 2005, for notable exceptions). More critically, statistical models on which these inferences are based typically examine either changes in the percentage of youth using personal reasoning to justify beliefs about a given source of disagreement (Smetana, 1989) by comparing the proportion of issues adolescents assign to different domains across ages (Smetana, 1988) or by predicting the likelihood of endorsing parental legitimacy over individual items from age (e.g., Darling et al., 2005, 2008). Critically, likelihood of endorsement is estimated by aggregating responses across individuals without analyzing the within-individual patterning of responses. In doing so, these models implicitly assume homogeneity in the patterning of responses across the population. Specifically, they are based on the assumption that what is true for the whole population is true for each individual. In other words, because analyses at the population level show that there is an overall decline in the likelihood of endorsing parental legitimacy with age, the statistical models assume that each individual's likelihood of endorsing parental authority shows a similar decline.

Cumsille et al. (2006) explicitly tested this assumption by analyzing the patterning of adolescents' endorsement of legitimacy across three types of issues: those classified as personal, those classified as prudential, and a multidomain issue. The authors used latent class analysis (LCA), a statistical technique to identify relatively homogeneous subgroups of adolescents who differed in the patterning of their endorsement of legitimacy. Subgroups were identified in three subsamples of early, middle, and late adolescents. Within each age group, the authors identified three patterns of response. In the first, which the authors labeled *parent control*, adolescents were relatively likely to endorse parental legitimacy across all issues, particularly during early and middle adolescence. In the second pattern, labeled *personal control*, adolescents were unlikely to endorse parental legitimacy across any of the issues. Only in the third pattern, labeled *shared control*, did adolescents clearly differentiate between granting parents legitimacy over prudential issues but not over personal ones. Importantly, when comparisons were made of analogous response patterns across ages, the parent control pattern was most common, ranging from 49% of the early adolescent sample to 56% of late adolescents. Equally important, however, the normative decline in likelihood of endorsing parental authority could be seen by examining likelihood of granting parents authority over individual issues in analogous response patterns across ages. Thus, in the parent control group, early adolescents had over a 75% likelihood of granting parents authority over their video fare, but for late adolescents this was just over 30%. Nonetheless, the patterning of endorsement of parental legitimacy differed sharply across the three groups, with only the shared control group evincing the pattern of responses predicted from social-cognitive domain theory. Previous analytic techniques, which only focused on issue- and population-level change without examining patterns of responses, have masked these differences. The results of the pattern-centered LCA analysis suggest that, rather than a single normative trajectory of change in adolescents' legitimacy beliefs, there may be several.

The similarity in the group sizes and patterning of responses across the three age groups makes it tempting to speculate that, as they grow older, individuals move from one analogous class to the next. The previous research was limited to cross-sectional data, however, making such speculations unfounded. The goal of the current project was to extend this research in three ways. First, it utilized longitudinal data to examine the patterning of adolescents' legitimacy beliefs over time. Next, it examined individual differences in patterns of belief. In addition to gender and social class, differences in the patterning of beliefs were predicted from characteristics of the individual adolescent (age, problem behavior, and self-efficacy) and from parent characteristics (the extent to which they set rules). Finally, the stability of subgroup membership was examined over time and changes in subgroup membership were predicted from characteristics of the adolescent and their parents (age, problem behavior, self-efficacy, parent rules).

Consistent with previous research, we expected that three latent statuses would underlie the observed pattern of responses to the legitimacy items: parent control, shared control, and adolescent control. In the parent control status, adolescents are relatively likely to cede parent control over issues in all domains. In the adolescent control status, adolescents are relatively unlikely to cede parent control over all domains. In the shared control status, adolescents are likely to cede parents control over prudential issues, but unlikely to cede control over personal issues. We expected this configuration of statuses to be stable over time and that a large proportion of adolescents would remain in the same status over time. We also expected that older age and more problem behavior would predict belonging to the personal control status and self-efficacy to be associated to belonging to a more balanced pattern of perception of parental legitimacy, such as the shared control status.

Adolescence in Chile

Political change, increasing urbanization, and outside media influences from Europe, the United States, and other Latin American countries have led to rapid changes in Chilean culture over the past two decades (Instituto Nacional de la Juventud, 1999). Chile is in the midst of a profound cultural shift resulting from the fall of the military dictatorship and the reinstitution of democracy in 1990. These changes, combined with rapid economic development, have resulted in a sharp rejection of authoritarian values and in the liberalization of social and sexual norms (Martínez, Cumsille, & Thibaut, 2006). As a result of these changes in political and social climate, many Chilean parents express discomfort with strict rule enforcement and report that they are less authoritarian and less likely to use power-assertive parenting techniques than did their own parents (Martínez et al., 2006). Over 85% of Chilean youth think of themselves as different from the adult generation both in how they think and how they act (Martínez et al., 2006). Although Chilean youth espouse beliefs about legitimacy of parental authority similar to those in the United States and the Philippines, Chilean youth are less likely than Filipino or U.S. youth to (a) believe their parents have the right to govern their behavior (particularly with regard to prudential areas, such alcohol use or curfew), (b) believe that they are obliged to obey parents when they disagree, or (c) agree with parents (Darling et al., 2005). Across all social classes, younger Chileans espouse more individualistic values than older cohorts, although the society remains highly family oriented (Programa de Naciones Unidas para el Desarrollo, 2002).

Method

Participants

Participants in the study were adolescents participating in a longitudinal study of parenting, adolescent risk behaviors, and resilience in Chile. Adolescents were recruited in seven schools from three counties in Santiago, Chile (92% of 14- to 17-year-old Chileans are enrolled in school; Martínez et al., 2006). Schools are typically organized from Grades 1 to 8 and from 9 to 12, so sixth and seventh graders in the sample experienced a transition from primary to secondary school during the study's duration. Schools were selected to represent the diversity of SES observed in the Chilean educational system and included two private, one subsidized private, and four public schools, thus oversampling for lower SES students. The study followed the same adolescents for a period of 3 years, with measurements every 6 months. For the present study, we used adolescent's responses to the first, third, and fifth measurement periods (1 year apart). Because of practical and budget considerations, the study sampled a large group of adolescents in the first wave of measurement ($N = 2,611$, ages 11–16) and, subsequently, random classes were selected from within each school for follow-up. Consequently, the study had a large group of adolescents at baseline and a reduced number of adolescents in the follow-ups. This sampling strategy can be considered a form of planned missing data design (Graham, Taylor, Olchowski, & Cumsille, 2006), which conforms to the missing at random (MAR) assumption. When data are MAR, it is possible to use all available information for parameter estimation using the EM algorithm (Graham, Cumsille, & Elek-Fisk, 2003; Schafer & Graham, 2002). Details about the data analytic strategy are provided next.

Out of the 2,611 participants, 661 provided data at all three waves, 571 provided two waves of data, and 1,379 had one wave of data. Response patterns at the first time of measurement (T_1) were compared to test systematic differences between adolescents with and without missing data. None of the tests showed significant differences in the pattern of legitimacy responses between adolescents with complete and missing data after the first measurement point ($p > .05$). A small but significant ($p < .01$) age difference was found between adolescents with data in all waves (M age = 14.00) and those with one or more wave of data

missing (M age = 14.33). Adolescents with complete data also reported slightly lower levels of problem behavior ($M = 1.73$ vs. $M = 1.84$).

At the time of first measurement, adolescents were between 11 and 16 years old ($M = 14.25$, $SD = 1.39$), and 62% were female (one school was all-female students). According to the classification available from the Chilean Ministry of Education (Ministerio de Educación, República de Chile, 2007) the sample was 13% middle-low SES, 53% middle SES, and 34% middle-high SES. Overall, 20% of mothers and 15% of fathers in the sample completed primary education or less, 19% of mothers and 16% of fathers had some high school, 36% of mothers and 35% of fathers completed high school, and 15% of the mothers and 21% of the fathers had at least some college. By comparison, in 2002, the average years of schooling for adults in Santiago was 10.6 years, equivalent to some high school (Ministerio de Educación, República de Chile, 2002). Sixty-seven percent of the adolescents lived with both biological parents, 19% lived only with their mother, 8% lived with mother and stepfather, and the rest lived in different family arrangements (e.g., father, other relatives).

Unlike most other Latin American countries, Chile is quite ethnically homogeneous, and no information about ethnicity was collected for the present study.

Measures

Legitimacy of parental authority—This study used items selected from a larger questionnaire measuring adolescents' beliefs about the legitimacy of parental authority, adolescents' obligation to obey, and parent–adolescent conflict (Cumsille et al., 2006; Darling et al., in press). Building on previous research that identified observed indicators of latent class membership (Cumsille et al., 2006), six items were selected to represent areas that are frequent sources of parent–adolescent conflict and were identified through review of the extant literature (e.g., Smetana, 1993; Smetana & Berent, 1993) and focus groups in Chile. For each issue, adolescents were asked to answer “yes” or “no” to the question, “Is it OK for your parents to set rules about this issue?” The six issues (see Table 1 for item proportion of “yes” responses at each time) used in the present study represent the personal domain (“how you use your free time” and “the type of TV programs, movies, or videos you watch”), multidomain (“hanging around with people your parents think are problematic”), and prudential domain (“smoking cigarettes,” “drinking alcohol,” and “using drugs”). Analyses conducted with a different set of items (i.e., how you dress, who your friends are, where do you go with friends) provided results that were substantively identical to the ones reported in the present study. We report the analysis for a smaller number of items for ease of presentation and to provide consistency with prior cross-sectional work.) Items were chosen to be clearly representative of the three domains, based on the literature (e.g., Darling et al., 2005; Smetana, 1989, 1993), previous research (e.g., Cumsille et al., 2006), and content analysis of Chilean focus groups' responses. A complete discussion of the rationale for the use of dichotomous items for this type of analysis can be found in Cumsille et al. (2006).

Predictors of latent status membership and transitions over time—Parental rules, adolescent self-efficacy, and adolescent problem behavior were used to predict latent status membership and latent transitions over time. Adolescents reported whether or not their parents had set rules in 17 different areas (e.g., use of free time, who their friends are, smoking). A *parental rules* scale was computed as the sum of the number of rules adolescents reported (Cronbach's $\alpha = .89$). Adolescents' *sense of efficacy and personal competence* was computed as the average of seven items written for the study, using as reference the self-efficacy scale from Sherer et al. (1982). These items assessed the adolescent level of agreement (1 = *strongly disagree*, 5 = *strongly agree*) with statements

such as: “There are many things that I can do by myself,” “I can focus on a task and persist on it,” “I feel that what I do makes a difference” (Cronbach's $\alpha = .77$). *Problem behavior* was computed as the average frequency that adolescents reported to engage (1 = *never*, 7 = *more than once a week*) in 16 different behaviors, including shoplifting, substance use, and behavior problems in school. Reliability for this scale, measured by Cronbach's alpha, was .86. Means and standard deviation of predictors are presented in Table 1.

Procedure

Adolescents were recruited in their schools, with the approval of county educational authorities (for municipal schools) and school principals. In accordance with Chilean research regulations, passive parental consent and active adolescent assent were obtained. Questionnaires were administered by trained upper-level psychology students and were answered by students in their classrooms. Participants received a candy snack as a thank you for completing the questionnaires.

Plan of Analysis

Latent transition analysis (LTA) was used to analyze discrete change over time in the patterning of adolescents' beliefs about the legitimacy of parental authority across the six issues assessed. LTA is an extension of LCA, a categorical latent variable model (Clogg, 1995; Goodman, 1974) conceptually similar to factor analysis. In factor analysis, an unobserved linear variable is assumed to be responsible for individuals' responses across items. In LCA, an unobserved categorical variable representing the latent classes of people is assumed to be responsible for item responses. Relations among the measured items are assumed to be a result of class membership (more detail about LCA can be found in Lanza, Lemmon, Schafer, & Collins, 2007).

Whereas LCA is used to identify underlying classes cross-sectionally, LTA models change in class memberships over time. In LTA, the latent classes are referred to as latent statuses in order to emphasize their dynamic nature, as they may change over time. Three basic types of parameters are estimated in LTA. The *latent status membership probabilities* represent the proportion of the population expected to belong in each latent status at Time 1. *Conditional item response probabilities* describe the relation between latent status membership and the measured items at a specific time. *Transition probabilities* represent the probability of belonging to a status at time T conditional on belonging to a specific status at time $T-1$. In other words, transition probabilities provide a summary of the movement from status to status over time.

The approach to model fit in LTA is the same as in other categorical data models. Pearson's χ^2 or the likelihood ratio statistic (G^2) is used to summarize the difference between observed and expected frequencies in response patterns. The identification of a baseline model for our analyses was based on previous research (Cumsille et al., 2006), so the use of G^2 was restricted to comparing different models when testing invariance over time and for comparing multigroup nested models. A more extended description of LCA and LTA is beyond the scope of this article. For accessible descriptions of LCA and LTA, please see Flaherty (2002), Lanza and Collins (2008), Lanza, Flaherty, and Collins (2003), or McCutcheon (1987). For specifics of the implementation of these methods in SAS, see Lanza, Collins, Lemmon, and Schafer (2007) or Lanza, Lemmon, et al. (2007).

Based upon previous research (Cumsille et al., 2006), analyses were first run to confirm that patterns of beliefs were invariant across age groups. As a test that differences in belief patterns were not an artifact of normative age differences, we conducted a multigroup analysis by age (11–12-, 13–14-, and 15–16-year-olds).

Final models were run using three waves of data, 1 year apart, allowing the estimation of latent status membership at T_1 and transition probabilities from T_1 to T_2 and transition probabilities from T_2 to T_3 . Latent status memberships at T_2 and T_3 are also estimated by LTA models, but they are estimated as functions of latent status membership at previous measurement times and transition probabilities (Lanza & Collins, 2008; Lanza, Lemmon, et al., 2007).

The analyses proceeded in the following sequence. First, an unconstrained latent transition model was fit to the data, relating the six items measuring the legitimacy domains to three latent statuses, based on previous work (Cumsille et al., 2006). To examine possible differences in the patterning of legitimacy responses over time, a second, constrained model was then computed, restricting the response probabilities of equivalent statuses to be equal over time. The constrained and unrestricted models were then compared to assess fit.

Second, we ran a set of nested models to test for possible differences in the latent status item response probabilities and distribution separately by gender and by SES. For each grouping variable, the model for the sample as a whole was rerun as a multiple group analysis with and without equality constraints to test for measurement invariance across groups.

Finally, we ran models to predict latent status membership at T_1 and transition probabilities from T_1 to T_2 . The decision to test only the effects on transition probabilities between T_1 and T_2 was based on the observation that membership status tended to stabilize over time, so less movement was observed from T_2 to T_3 than from T_1 to T_2 . First, we ran a model using age, problem behavior, number of parental rules, and self efficacy at T_1 as predictors of latent status at T_1 . The analysis was run as a binary logistic regression model where personal and shared control statuses were collapsed as the reference category, so that parameter estimates represent the effect of the predictors on the log odds of being in the parent control status in comparison to the other two statuses. Then, the same predictors were included in the model to test their effects on the transition probabilities from T_1 to T_2 .

All analyses were performed using Proc LTA, a new SAS procedure to estimate latent transition models (Lanza & Collins, 2008; Lanza, Lemmon, et al., 2007), using an EM algorithm to handle parameter estimation and missing data (Hyatt & Collins, 1998; Lanza, Lemmon, et al., 2007). As previously discussed in the participants section, a larger sample of adolescents was available at the first time of measurement, but subsequent measurements were collected on smaller groups of adolescents using a sampling design that resembled a planned missing data design (Graham et al., 2006) and conforms to the MAR assumption.

Results

Identification of Patterns of Legitimacy Beliefs

Consistent with the latent class model reported by Cumsille et al. (2006), a three-latent-status model was fit to the data at each measurement point. Two nested models were run. First, item response probabilities were freely estimated across time, and then response probabilities of equivalent statuses were constrained to be equal across time. Conditional response probabilities for the unconstrained model are graphed in Figure 1. The height of each bar represents the probability of saying “yes” (granting parents legitimacy) for each item. A horizontal line at 0.5 (50/50 probability of responding “yes” or “no”) has been drawn across the plots. The farther away a bar raises or dips from the 0.5 line, the more closely the item response is linked to status: Response probabilities close to 0.5 indicate responses that are not closely related to a particular status, and are therefore not distinctive characteristics of that status. Figure 1 allows comparison of response patterns within time and comparison of changes in each response patterns across Time 1, Time 2, and Time 3.

Analogous response patterns emerged at Time 1, Time 2, and Time 3: a parent control status, with adolescents ceding legitimacy of parental authority over all issues; a shared control status, with adolescents ceding legitimacy of parental authority over prudential but not over personal issues; and a personal control status, with adolescents denying parental authority over all issues. Comparison of the constrained and unconstrained models, a test of invariance in probability response patterns by status over time, suggested that item response probabilities were not invariant over time ($\Delta G^2 = 130.27$, $\Delta df = 36$, $p < .01$). Specifically, the likelihood that adolescents in the personal control class would cede parental authority over drug use was higher at Time 2 and Time 3 than it was at Time 1. Despite this difference, given the conceptual similarity of the status patterns over time and to aid interpretability, measurement invariance over time was enforced for the remaining analyses.

To test for possible differences in the pattern of responses by age groups, we ran a multigroup analysis breaking down the sample in three age groups (11- to 12-, 13- to 14-, and 15- to 16-year-olds). The comparison of the model with response probabilities constrained across age groups to the model with the probabilities freely estimated in each group indicated no strict statistical invariance ($\Delta G^2 = 414.15$, $\Delta df = 144$, $p < .01$). However, this omnibus test is considered sensitive to small differences in item-response probability, and it has been suggested that the pattern of responses should be interpreted according to the overall meaning of the classes across groups (Lanza & Collins, 2008). As can be seen in Figure 2, the meaning of the classes is substantively analogous in the three age groups. The main differences are observed in the decline of parental legitimacy over personal issues, a result consistent with previous research. Given the pattern of similarities across age groups, analyses proceeded using the whole sample under the assumption of age invariance.

Item response probabilities by class for the restricted model and the percentage of the population estimated to belong in each status at each time point are presented in Table 2. The shared control status was the most common at each time point, with percentages ranging from 47% at T_1 to 60% at T_3 . The second most prevalent status was parent control. Longitudinally, there was an increase in the percentage of the population estimated to belong to the shared control status and a decrease in the percentage of the population expected to belong to the personal and parent control statuses. This pattern suggests that adolescents move toward a more balanced view of the legitimacy of parental authority, with a differentiation by specific domains.

An important strength of LTA is the ability to identify patterns of change in status membership over time. Figure 3 presents the probability of membership in a particular status at time T , given latent status membership at time $T - 1$. For example, it provides information on the probability of belonging to the parent control, shared control, and personal control categories at Time 2 for adolescents who differ in status at Time 1. The left panel represents overtime status transitions from T_1 to T_2 and the right panel represents status transitions from T_2 to T_3 . There was strong stability in status membership over time, with highest transition probabilities for individuals remaining in the same status. For example, the percentage who remained in the shared control status was 71% from T_1 to T_2 and over 94% from T_2 to T_3 . In the same way, the percentage of adolescents who remained in the parent control status was 69% from T_1 to T_2 and 73% from T_2 to T_3 . Focusing on change, the most common transition to a different status was from personal control to shared control status (almost 36% from T_1 to T_2 and 30% from T_2 to T_3). These patterns of results suggest a strong level of stability within the statuses, with some movement going from adolescents denying parental authority over any issue to a mixed legitimacy pattern (i.e., acknowledging legitimacy over prudential but not personal issues). The comparison of the magnitude of transition probabilities from T_1 to T_2 with the transitions probabilities from T_2 to T_3

indicated that stability (remaining in the same status from one period to the next) increased over time, whereas change of status decreased.

Analysis by gender and SES—To examine gender differences in status, we first ran a model grouping the sample by gender without restrictions and then tested for the invariance of item response probabilities for each status across gender. Similar to the results for the whole sample, results indicated that there was no strict statistical invariance across gender ($\Delta G^2 = 61.09$, $\Delta df = 18$, $p < .01$). However, as shown in Table 3, the pattern of response probabilities was very similar for boys and girls. As in the sample as a whole, the main difference in response probabilities was observed for the drug item in the personal control status. The last three columns of Table 3 represent the expected likelihood of status membership at each time point by gender. The shared control status had the largest expected percentage for both girls and boys and this probability increased over time. The estimated probability of belonging to the parent and personal control statuses decreased over time. Transition probabilities by gender presented a similar pattern to the pattern reported for the whole sample: A large percentage of the population remained in the same status, and this stability pattern increased over time.

Next, models were rerun using SES as a grouping variable. Again, the results of this analysis indicated that there was no statistical invariance across SES ($\Delta G^2 = 162.17$, $\Delta df = 36$, $p < .01$). As before, the main difference in response probabilities across SES groups was observed for the drug item in the personal control status. Unlike previous models, however, there were greater differences in the magnitude of the item response probabilities across SES (see Figure 4). To acknowledge this variability, the latent status proportions by SES are presented in Figure 5 using the unrestricted model. Again the general pattern suggested that the shared control was the most prevalent status and its prevalence increased over time. However, this pattern was broken for the medium-high SES at T_1 , where the personal control status was more prevalent than shared control status. In addition, although the shared control status increased over time for all the SES groups, the change was more moderate for the medium-low SES group. In addition, the medium-low SES group presented the largest expected percentage of individuals in the parent control status. As in previous analyses, transition probabilities indicate a pattern of stability that increased over time, with substantial movement from the personal control status to the shared control status from T_1 to T_2 , particularly for the medium-high and medium SES.

Predictors of status and transition probabilities—Binary logistic regression analyses were computed to predict latent status membership at T_1 from age, self-efficacy, problem behavior, and parental rules. Results are reported in Table 4. The first set of parameter estimates (columns 2–4) compare being in the parent control status versus the other two statuses and the second set of estimates (columns 5–7) compare being in the personal control status versus the other two. All four predictors were significantly related to the latent statuses. Age and problem behavior were negatively related to the log odds of being in the parent control status. For every unit of increase in problem behavior, adolescents were five times less likely to belong in the parent control status at T_1 . Parental rules and self-efficacy were positively related to the log odds of belonging to the parent control status. A unit increase in self-efficacy made adolescents 1.5 times more likely to be in the parent control status. The effect of the predictors on personal control was the opposite, such that age and problem behavior were positively related to the log odds of being in the personal control status, and parental rules and self-efficacy were inversely related to the log odds of being in the parent control status. The effect of problem behavior was particularly strong, as a unit of increase in problem behavior increased more than 2.5 times the likelihood of belonging to the personal control status.

Next, we analyzed the effect of the predictors on the transition probabilities from T_1 to T_2 . Because we were interested in comparing the stability over time of the latent statuses, we ran the models as binary logistic regression models comparing stability to movement. For example, the second, third, and fourth columns of Table 5 present the effects of the predictors on the stability of parent control status compared to movement from parent control to any of the other two statuses, so the parameter estimate represents the effects of the predictors on the log odds of remaining in the parent control status as opposed to moving away from this status. Columns 5–7 and 8–10 represent the effects on stability in personal control and shared control, respectively. Proc LTA does not provide automatic statistical significance tests for the coefficients predicting transition probabilities. To get an estimation of significance of the prediction coefficients, we ran separate models for each predictor and compared the log-likelihood of each model against the log-likelihood for the no-predictor model, providing a 1 *df* test of the hypothesis.

The LTA models with predictors were run for the whole sample as a multigroup analysis by gender and SES. Because the results of the multigroup analyses were substantively analogous to the results from the whole sample analysis, we present the results only for the analyses conducted with the whole sample.

Stability in parent control status: As can be seen in the second, third, and fourth columns of Table 5, age and problem behavior were negatively related to stability in the parent control status, and parental rules was positively related to stability of parent control status. Again, the association with problem behavior was strong; with each point of increase in problem behavior adolescents were more than 15 times less likely to remain in the parent control status. Further analyses were run to determine which status adolescents who did not remain in the parent control status transitioned to. Movement to the personal control status was more than 20 times more likely (odds ratio [OR] = 21.92) than remaining in the parental control status and movement to the shared control status more than 10 times more likely (OR = 10.88) than remaining in the parental control status, per point of increase in the problem behavior scale. Age predicted that adolescents who moved away from the parent control status were more than twice as likely to move into the personal control status (OR = 2.22) or the shared control status (OR = 2.38) than to remain in the parental control status per year of increase in age. This finding is consistent with past findings of normative, age-related change in beliefs.

Stability in personal control status—Only problem behavior was significantly related to stability in the personal control status (fifth, sixth, and seventh columns of Table 5). Problem behavior was positively related to remaining in the personal control status, with adolescents 2.88 times more likely to remain in the personal control status for each point of increase in problem behavior. Follow-up analysis showed that although movement away from the personal control status was unlikely, problem behavior predicted movement to the shared control status more likely than to the parental control status (OR = .70 vs. .08, respectively).

Stability in shared control status: Finally, self-efficacy and parental rules were related to stability in shared control status. Adolescents were about one third less likely (OR = .34) to remain in the shared control status for each point of increase in self-efficacy, and slightly more likely (OR = .40) to remain in the shared control status for point of increase in parental rules (last three columns of Table 5). Adolescents who did not remain in the shared control class were more likely to move to the parent control status (OR = 2.99) than to move to the personal control status (OR = 1.87) per unit of increase in self-efficacy and far more likely to move to the parental control status (OR = 9.08) than the shared control status (OR = .72) per unit of increase in parental rules.

Discussion

Although adolescents increasingly claim control of their own decisions as they move from childhood to adulthood, there is evidence of individual differences in the patterning of adolescents' perception of parental legitimacy of authority and in the timing of adolescents' ownership of the decision-making process. The present study builds on previous issue-centered longitudinal research (Darling et al., 2008) and pattern-centered cross-sectional research (Cumsille et al., 2006) to examine longitudinal patterns of change in adolescents' beliefs about the legitimacy of parental authority. Consistent with the interpretation of prior research, results document heterogeneity in adolescents' perception of parental legitimacy in adolescents who range in age from early to middle adolescence. In addition, these findings extend prior research by showing that differences in the patterning of adolescents' perception of parental legitimacy tend to remain stable over time. These results are consistent with past research showing a normative shift in the likelihood that adolescents will endorse parental legitimacy over individual issues with age (e.g., Smetana, Crean, 2005). Importantly, however, findings indicate that item-focused analyses that ignore within-person effects mask large individual differences. In addition, traditional analyses confound differences between people and differences within them. The timing of adolescents' transitions in their granting of legitimacy of parental authority does not follow a single sequence across all adolescents.

Previous research by Cumsille et al. (2006) documented three distinct latent classes of parental legitimacy: one endorsing parent authority over personal, multidomain, and prudential issues (parent control), one endorsing parent authority over prudential but not personal issues (shared control), and one endorsing parent authority over no domain (personal control). Analogous classes emerged in analyses of early, middle, and late adolescents. The current study expands on these results to provide longitudinal evidence for consistency in these latent classes. More importantly, examination of the transition probabilities suggests that there is considerable stability in individual adolescents' status membership over time. Thus, these results suggest that (a) there are three distinct patterns in adolescents' legitimacy beliefs that are similar over time and (b) the patterning of most adolescents' legitimacy beliefs are stable over time. Consistent with prior issue-focused longitudinal research (Darling et al., 2008), adolescents' beliefs appear to become more stable with age.

Current findings are also consistent with prior research focusing on normative differences in the endorsement of parental legitimacy (e.g., Nucci, Camino, et al., 1996). At each time point, most adolescents are in the parent or shared control groups, acknowledging parents' rights over prudential issues in general, but retaining their rights over personal issues in the case of shared control class. It is also notable that the same general patterning of responses is observed across gender and SES, with minor variations on specific items. The most notable difference is observed in prudential issues such as drug use, where there are minor differences by age, despite the stability of the general pattern. In addition, it is the shared control status that shows the most stability over time.

Interestingly, when adolescents' beliefs change, transitions occur primarily from the two extreme patterns—parental and personal control—to shared control. These changes may well reflect the increasingly multidimensional nature of adolescent thinking (Smetana, 2006). However, it should be noted that these findings contradict previous notions of a relatively monotonic expansion of adolescents' sense of the personal domain—that area over which they believe parents do not have legitimate authority—with age.

Consistent with previous issue level analysis (Darling et al., 2008), age and higher rates of problem behavior were associated with belonging to and remaining in the personal control

status. More parental rules and a greater sense of personal efficacy were negatively related to belonging to the personal control status. The fact that adolescents with a high sense of personal efficacy were less likely to be in the personal control group is particularly intriguing. Because it has been argued that personal efficacy is conceptually related to autonomy (i.e., as agency; Ryan, Deci, & Grolnick, 1995), it might be expected that adolescents with a high sense of personal efficacy would claim more control over their decision-making process. On the other hand, healthy autonomy development is best actualized in the context of secure parent–adolescent attachment and relatedness (Allen, Hauser, Bell, & O'Connor, 1994; Allen et al., 2003). Consequently, autonomous adolescents within a secure family context are more likely to grant at least partial legitimacy to parental authority. Our findings are consistent with this latter interpretation (see also Darling et al., 2005, for similar findings in Chilean, Filipino, and U.S. samples).

Because most young adults in both the United States and Chile do not believe that their parents should legitimately make decisions about day-to-day issues such as use of free time, prudential issues, or social relations, one important area of future research will be a careful examination of how adolescents make this transition. Multicultural research, focusing both on cultures that differ in norms about parental legitimacy beliefs (e.g., the Philippines) and within-culture variation as a function of living status, will be particularly important in this regard. For example, are changes in adolescents' legitimacy beliefs relatively smooth, as they appear to be among youth living at home with their parents? Or, in contrast, do they change as adolescents move from their parents' home and exercise greater behavioral and financial autonomy? Research by Arnett (2001) suggests that many “emerging adults” remain somewhat financially dependent on their parents well into their late 20s and are somewhat hesitant to endorse their own adult status. Are youth who do not feel that they are fully adults also more likely to endorse the continued legitimacy of parent control over their decision making? It seems unlikely. However, historically, parent control over many aspects of life was considered to be within the legitimate sphere of parent control until young adults married—typically in their mid- to late 20s (Ben-Amos, 1994). Although one can speculate that emerging adults' relations with their parents are more characterized by (possibly mutual) support than by an extension of adolescence (Arnett, 2001), this remains an empirical question.

In addition, because there is some evidence that youth in countries with strong normative expectations for filial piety grant parents' legitimacy over a broader range of issues until at least late adolescence (e.g., Darling et al., 2005), multicultural research might provide greater insight into the conditions under which young adults may legitimately assert personal control over all aspects of their own decision making. Past findings that there is substantial consistency in developmental change in children's and adolescents' legitimacy beliefs across multiple cultures (e.g., Darling et al., 2005; Fuligni, 1998; Nucci, Camino, et al., 1996; Yau & Smetana, 1993, 2003) may facilitate this research.

The setting for this study, Chile, is somewhat unusual for a study of parenting. Contemporary Chile is in the midst of a societal change perhaps analogous to that of the 1960s and 1970s in the United States and Western Europe, making it unclear the extent to which these findings will generalize to other social or historical contexts. The consistency of current findings with previous research on normative changes in adolescents' legitimacy beliefs is thus particularly reassuring. These data are also limited by the dichotomous measurement of adolescents' beliefs about the legitimacy of parental authority. Although this was a necessary compromise to facilitate gathering data in a large and varied sample, it is unlikely to fully reflect the complexity of beliefs that adolescents hold about parental authority. Again, consistency of current results with prior findings using in-depth interviews

(e.g., Smetana, 1988) and surveys that allowed for multicategorical responses (e.g., Smetana & Chuang, 2001) are thus particularly reassuring.

Adolescents' beliefs about their parents' right to control their behavior is an important predictor of the extent to which they are willing to obey parents (Darling et al., 2007) and to disclose to them (Darling et al., in press; Smetana et al., 2006). Each of these factors may also be important in maintaining positive, respectful, and trusting relations during adolescents' transition to autonomy (Darling & Dowdy, in press; Kerr, Stattin, & Trost, 1999). The current study provides further evidence for striking individual differences in the patterning of adolescents' legitimacy beliefs that remain relatively stable over time. To the extent that these individual differences have consequences for adolescents' openness to parental socialization efforts and for their behavior, more research is needed into the sources of these differences both during adolescence and in early childhood, when they seem to emerge.

Acknowledgments

This study was funded by Grants 1010933 and 1070852 from Fondo de Desarrollo Científico y Tecnológico, Fondecyt, Chile. Brian Flaherty was supported by NIDA Grant R01DA018673. The authors are grateful to Stephanie Lanza for valuable comments and suggestions to an early version of the manuscript.

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Figure 1.
Item response probabilities by status for each time of measurement.

Figure 2.
Item response probabilities by status by age group.

Figure 3. Probability of belonging to each status at Time 2 conditional on Time 1 and at Time 3 conditional on Time 2.

Figure 4.
Item response probabilities by status and socioeconomic status.

Figure 5. Proportion of the sample in each status by socioeconomic status (SES) for each time of measurement.

Table 1
Proportion of Students Who Believe Parents Have Legitimate Authority Over Different Issues at the Three Measurement Points and Mean and Standard Deviation for the Predictors

Legitimacy issue	Proportion		
	Time 1 (<i>N</i> = 2,611)	Time 2 (<i>N</i> = 1,090)	Time 3 (<i>N</i> = 803)
How you spend your free time	0.38	0.44	0.38
What kind of TV shows or movies you watch	0.40	0.37	0.32
Hanging around people your parents think are problematic	0.58	0.61	0.64
Smoking cigarettes	0.71	0.73	0.68
Drinking alcohol	0.82	0.83	0.84
Using drugs	0.88	0.92	0.93
Predictors		<i>M</i>	<i>SD</i>
Parental rules		10.22	11.00
Self-efficacy		3.94	.50
Problem behavior		1.81	.64

Table 2
Proportion of Students Endorsing Parent Control of Each Issue, Given Latent Status Membership, and Percentage of Adolescents Estimated to Belong to Each Status by Time

Latent status	Proportion of item response per class					Status membership (%)		
	Free time	TV	Problem friends	Smoking	Alcohol	Drugs	T ₁	T ₂
Parent control	0.66	0.74	0.83	0.95	0.97	0.98	35	37
Shared control	0.28	0.20	0.55	0.72	0.92	0.97	47	48
Personal control	0.20	0.15	0.23	0.18	0.21	0.51	17	15

Table 3
Proportion of Students Believing Parents Have Legitimate Authority Over Different Issues and Status Proportion Given Time and Gender

Gender	Latent class	Proportion of item response per class						Status membership (%)		
		Free	TV	Problem	Smoke	Alcohol	Drugs	T ₁	T ₂	T ₃
Females	Parent	0.70	0.82	0.82	0.97	0.96	0.97	28	30	23
	Shared	0.31	0.24	0.58	0.73	0.96	0.98	54	52	62
	Personal	0.20	0.14	0.23	0.18	0.29	0.63	18	18	15
Males	Parent	0.64	0.67	0.84	0.94	0.99	0.99	39	41	33
	Shared	0.25	0.17	0.53	0.73	0.85	0.94	43	48	58
	Personal	0.21	0.16	0.24	0.15	0.15	0.34	18	11	9

Table 4
Parameter Estimates for the Binary Logistic Regression Predicting Latent Status Membership at T₁

Predictors	Parent control status vs. shared and personal control combined			Personal control status vs. shared and parental control combined		
	B	OR	p value	B	OR	p value
Age	-.39	.68	.000	.14	1.15	.014
Problem behavior	-1.60	.20	.000	.95	2.59	.000
Parental rules	.24	1.27	.000	-.18	.83	.000
Self-efficacy	.42	1.52	.004	-.29	.75	.028

Note. OR = odds ratio.

Table 5
Parameter Estimates for the Binary Logistic Regression Predicting Stability in Latent Status From T₁ to T₂

Predictors	Remaining in the parental control status ^a			Remaining in the personal control status ^a			Remaining in the shared control status ^a		
	β	OR	p value	β	OR	p value	β	OR	p value
Age	-.84	.43	.001	.17	1.18	.466	.15	1.17	.462
Problem behavior	-2.74	.06	.001	1.06	2.88	.016	-.04	.96	.500
Parental rules	1.33	3.78	.019	.01	1.01	.057	-.90	.40	.042
Self-efficacy	.54	1.72	.371	-.98	.38	.052	-1.02	.36	.015

Note. OR = odds ratio.

^a Compared to transitioning to any of the other two statuses.