Early, on-time, and late behavioural autonomy in adolescence: Psychosocial correlates in young and middle adulthood

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A B S T R A C T

Drawing on two nationally representative German studies ($N_1 = 1744$, $N_2 = 759$), we examined correlates of early, on-time, and late curfew autonomy, a retrospective indicator of behavioural autonomy, in young and middle adulthood (19–37 years of age). Adjustment in four domains was considered: educational attainment, externalizing problem behaviour, subjective well-being, and interpersonal relationships. The early group showed lower adjustment in multiple domains across young and middle adulthood. The late group reported a mixed pattern of adjustment at younger ages (lower externalizing problems, but lower positive affect, lower importance of peers, and lower likelihood to have a partner) and positive adjustment in all domains at older ages. Timing effects were controlled for sociodemographic characteristics and retrospective measures of early adversities, pubertal timing, disclosure to parents, and peer group affiliation in adolescence. Findings show that late behavioural autonomy in its correlates is not simply the opposite of early behavioural autonomy.

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In many Western societies, adolescence is a period when individuals gain behavioural independence, establish more reciprocal relationships with parents, and develop their own system of values. These tasks have been referred to as the development of behavioural, emotional, and cognitive autonomy (e.g., Beyers, Goossens, Vansant, & Moors, 2003; Goossens, 2006). Drawing on the life course approach, which maintains that the timing of developmental transitions is important for psychosocial adjustment (e.g., Elder, 1995), the present article focuses on the timing of behavioural autonomy and its correlates. Previous research has shown that premature behavioural autonomy is linked to unfavourable developmental outcomes. Although theory suggests that late timing may also be maladaptive, empirical research on late behavioural autonomy is missing. The present article addresses this research gap.

The timing of behavioural autonomy

Much research has shown that a developmental trajectory, where behavioural autonomy is achieved gradually, and which is contingent on the growing capability of self-regulation and supportive parenting, is associated with a variety of positive outcomes, such as academic, social, and vocational competence, higher self-esteem, fewer depressive symptoms, and lower problem behaviour (e.g., Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Noom, Deković, & Meeus, 1999; Smetana,

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Campione-Barr, & Daddis, 2004). What happens, then, if adolescents deviate from this path and acquire behavioural autonomy relatively earlier or later?

On the one hand, being "off-time", whether early or late, may be maladaptive. This idea appears in the life course approach (e.g., Elder, 1995), the stage–environment fit theory (Eccles et al., 1991), and the action-phase model of developmental regulation (Heckhausen, 1999). Possible explanations of emerging disadvantages include the violation of normative expectations, missing age-graded opportunities, and a lack of fit between individual needs and environmental options. In research on pubertal timing, this perspective has been labelled as the *deviance hypothesis* (Brooks-Gunn, Petersen, & Eichorn, 1985).

On the other hand, one may expect only early behavioural autonomy to be maladaptive. The *stage termination hypothesis* (also originally formulated with regard to pubertal timing; Brooks-Gunn et al., 1985) posits that only the early timing of developmental transitions is disadvantageous, because it forces an individual into the next stage of development before prior developmental tasks have been resolved (cf. Erikson, 1959). In contrast, the late timing of any transition may signify a more gradual developmental trajectory, providing more time and resources to gain genuine psychosocial maturity.

Many empirical studies have shown that the early acquisition of behavioural autonomy privileges, "rights and benefits that frequently entail freedom from close adult supervision" (Feldman & Wood, 1994, p. 47; see also Haase, Silbereisen, & Reitzle, 2008), can be maladaptive. This *premature behavioural autonomy* (e.g., Dishion, Nelson, & Bullock, 2004) often bears only a superficial similarity to adult behaviour, reminiscent of pseudomaturity, and is related to lower educational attainment, higher externalizing and internalizing problem behaviour, more conflict with parents, and higher involvement with deviant peers (Dishion et al., 2004; Dornbusch, Ritter, Mont-Reynaud, & Chen, 1990; Galambos & Tilton-Weaver, 2000; Smetana et al., 2004).

However, there is a lack of evidence on late behavioural autonomy. Hence it is unclear whether the deviance or stage termination hypothesis holds true. Indirect hints come from research on pubertal timing; Silbereisen and Kracke (1997) found that the two hypotheses were applicable to different domains of adjustment. Specifically, only early puberty was associated with externalizing problems, but both early and late timing turned out to be maladaptive when internalizing problems were considered. It is just as plausible that late behavioural autonomy, implying higher parental control, prevents adolescents from socially undesirable activities, but also that it impairs their subjective well-being, for instance, by way of lower peer involvement.

Apart from the particular nature of outcomes, it is important to know how persistent they are. For example, can adaptive or maladaptive correlates of early and late behavioural autonomy be traced in adulthood? Again, relevant research is scarce, but previously our research group did find links between premature behavioural autonomy and maladjustment in selected domains in young adulthood (Haase, Tomasik, & Silbereisen, 2008).

Finally, it is of interest whether timing effects can be explained by third variables. Off-time psychosocial transitions may indicate, inter alia, a certain sociodemographic background, a history of childhood risk, maladaptive relationships with parents and peers, or non-normative pubertal timing, as research on sexual debut has shown (for a review see Zimmer-Gembeck & Helfand, 2008). Similar factors may account for the correlates of autonomy timing found in later life.

The present studies

In the present article, our aim was to examine psychosocial correlates of early, on-time, and late behavioural autonomy in young and middle adulthood employing data from two representative German studies. We focused on behavioural autonomy privileges, using curfew autonomy as an indicator with high face validity (see Haase, Silbereisen, et al., 2008): At what age did adolescents start to decide for themselves when to go out and at what time to come home? We defined early, on-time, and late curfew autonomy (assessed retrospectively) with statistical and legal criteria. The statistically derived cut-off age for early timing, 16 years, corresponds to the legal age of acquiring many autonomy privileges in Germany (e.g., drinking alcohol in public). The cut-off age for late timing, 18 years, corresponds to the legal age of majority in Germany.

Whereas previous research, including our own (Haase, Tomasik, et al., 2008), had concentrated exclusively on premature behavioural autonomy, by also considering late timing, we were able to test the deviance and stage termination hypotheses. With this aim, we focused on adult psychosocial adjustment in four domains: educational attainment, externalizing problem behaviour (deviance and substance use), subjective well-being (negative affect, positive affect, and life satisfaction; see Diener, 2000), and interpersonal relationships (importance of parents and peers, perceived social support, partnership status, and partnership quality). We expected that early curfew autonomy would relate to maladaptive outcomes across all adjustment domains, which would fit both the deviance and stage termination hypotheses. With regard to late curfew autonomy, we anticipated no academic underachievement or externalizing problems (i.e., the stage termination hypothesis would apply here), but we did expect poorer adjustment in the domains of subjective well-being and interpersonal relationships (i.e., the deviance hypothesis would apply here). As the two studies covered different age ranges (Study 1: 19–28 years of age; Study 2: 28–37 years of age), we explored whether these correlates would be found not only in young adulthood, but also in middle adulthood.

In addition, we investigated the robustness of timing effects in the presence of control variables. For this purpose, we introduced sociodemographic characteristics (region, community size, parental education, own age and gender) and a number of potential antecedents of curfew timing that were available in Study 1 (assessed retrospectively), namely, early adversities (cf. Rutter, 1996), pubertal timing (cf. Weichold, Silbereisen, & Schmitt-Rodermund, 2003), disclosure to parents in adolescence (cf. Stattin & Kerr, 2000), and peer group affiliation in adolescence. Although our studies were not longitudinal,

these retrospective measures enabled us to explore the developmental situation prior and concurrent to the transition to curfew autonomy, which could also account for the patterns of adult adjustment.

Method

Samples

We used data from two representative cross-sectional German studies conducted in 1996 and 2005 (see Silbereisen & Pinquart, 2008; Silbereisen & Zinnecker, 1999, for details). The studies covered overlapping birth cohorts, but did not follow the same individuals across time. Study 1 (1996) was based on a quota sample stratified by federal state, community size, age, education, and gender. Data for Study 2 (2005) were collected from two West and two East German federal states through a random route technique. This sample was stratified by administrative units and community size and representative in terms of age and gender. In both studies, standardized face-to-face interviews (duration about 1 h) were employed for data collection. Participation was voluntary and without financial reward.

From both studies, we chose participants born within a ten-year range, that is, from 1968 to 1977. In Study 1, these were the participants aged 19–28 ($N_1 = 1744$). In Study 2, these were the participants aged 28–37 ($N_2 = 759$). Sociodemographic characteristics of the two samples are presented in Table 1. No substantial differences between the samples were found with regard to region, $\chi^2(1, N = 2503) = 3.78$, $p < 0.10$, or gender, $\chi^2(1, N = 2503) = 1.06$, *ns*.

Measures

The timing of curfew autonomy

We assessed curfew autonomy timing retrospectively with an item from the Teen Timetable (e.g., Feldman & Wood, 1994; "When did you determine yourself when to go out and come home for the first time?"; answer in full years). The exact wording of this item was drawn from the German Shell Youth Studies, where retrospective assessment of transition timing had been used successfully for decades (Jugendwerk der Deutschen Shell, 1992). As shown in Table 1, in both studies less than 15% of the participants reported having experienced curfew autonomy before age 16; these were allocated to the *early group*. Less than 15% of the participants reported to have experienced curfew autonomy after age 18 or never; they made up the *late group*. Accordingly, the *on-time group* included more than 70% of the participants. The distribution of the participants between the three groups did not differ across the two studies, $\chi^2(2, N = 2503) = 2.69$, *ns*.

Three follow-up analyses supported the reliability and validity of curfew autonomy as an indicator of behavioural autonomy. First, in Study 1, the timing of two other behavioural autonomy privileges (i.e., going to discotheques and travelling independently) was also assessed. For each indicator, we identified the early, on-time, and late groups using statistical criteria (i.e., the early and late groups each comprised less than 20% of participants). Then we calculated separate indices for early and late behavioural autonomy, one counting occurrences of being early across the three indicators, another counting occurrences of being late. Using this three-item measure, we repeated the analyses reported below (see Results) and found similar correlates of early and late behavioural autonomy in the four domains of adjustment.

Next, to clarify the meaning of curfew autonomy beyond the content of the present item, we conducted an add-on study on a sample of 74 college students (67.6% females; age in years: $M = 22.77$, $SD = 3.59$). Besides the item on curfew autonomy, we administered several items adapted from the Adolescent Decision-Making Scale (Bosma et al., 1996). Results showed that participants with later curfew autonomy reported marginally more conflict with their parents about this issue ($r = 0.21$, $p < 0.10$). Moreover, the timing of curfew autonomy was unrelated to timing norms (i.e., "I thought it was normal for someone of my age to decide this for him/herself"; $r = 0.09$, *ns*), to an open breach of curfew (i.e., "I just did it although my parents disapproved"; $r = -0.12$, *ns*), or to a secret breach of curfew (i.e., "I had already stayed away longer secretly without telling my parents"; $r = -0.01$, *ns*). Lastly, despite the nonsignificant differences for timing norms, participants were well aware of their actual timing in comparison with their peers. Those with later curfew autonomy reported that most of their friends had experienced this transition earlier ($r = -0.49$, $p < 0.05$). All associations seemed to be linear. In sum, these results spoke against a social desirability bias in reported timing and suggested that early curfew autonomy did not simply mean a breach of curfew.

Table 1
Sample characteristics and timing groups.

Variable/Category	Study 1	Study 2
West Germany[a]	933 (53.5%)	374 (49.3%)
Females[a]	917 (52.6%)	416 (54.8%)
Age in years, *M* (*SD*)	23.73 (2.90)	33.39 (2.90)
Curfew autonomy timing[a]		
Early (<16)	248 (14.2%)	108 (14.2%)
On-time (16–18)	1287 (73.8%)	577 (76.0%)
Late (>18)	209 (12.0%)	74 (9.7%)

[a] Absolute frequencies (percentages in parentheses).

Finally, the retrospective assessment of autonomy timing might produce a forward telescoping effect (i.e., with age, people tend to recall earlier events as having occurred more recently; Huttenlocher, Hedges, & Prohaska, 1988). To rule out the possibility of such a bias, we tested for age differences in the reported timing and found none (see Results).

Educational attainment

In both studies, *own school attainment* (1 = eight years of education; 2 = ten years; 3 = 12 or 13 years) and *own vocational attainment* (1 = none/semiskilled worker; 2 = skilled worker/master qualification; 3 = technical college certificate or university degree) were assessed.

Externalizing problem behaviour

Study 1 (age 19–28). Deviant behaviour ($\alpha = 0.81$) was measured with a ten-item scale (see Wiesner & Silbereisen, 2003). Participants reported how often (1 = never; 3 = often) they had engaged in various undesirable activities (e.g., shoplifting) during the last year. *Alcohol and tobacco use* were assessed by two items (adopted from Jugendwerk der Deutschen Shell, 1992). The first asked, "How often have you consumed alcohol in the past month?" (0 = not at all; 5 = more than 20 times or up to once a day). The second measured the average number of cigarettes smoked per day (0 = none; 3 = 21 or more). Many studies support the reliability and validity of self-reports of substance use (e.g., Walker & Cosden, 2007).

Study 2 (age 28–37). Alcohol use was measured by an aggregate score reflecting the average amount of pure alcohol consumed per day (in grams) for those who reported to have drunk alcohol within the past month. It was based on seven items drawn from the German Epidemiological Survey of Substance Use (Augustin & Kraus, 2005), which assessed frequencies and amounts of consumption of specific alcoholic beverages.

Subjective well-being

Study 1 (age 19–28). Negative affect ($\alpha = 0.89$) was measured with 13 items from the German translation of the Center for Epidemiologic Studies Depression Scale (Radloff, 1991). These items referred to depressive symptoms experienced within the last week (e.g., "I was sad"; 0 = rarely/never; 3 = mostly/always). *Positive affect* ($\alpha = 0.71$) was measured with two opposite items from the same scale (e.g., "I was in a joyful mood").

Study 2 (age 28–37). The five-item depression subscale of the Brief Symptom Inventory (Derogatis, 1993) was used to measure *negative affect* ($\alpha = 0.91$). Items referred to depressive symptoms experienced during the last month (e.g., "feeling hopeless about the future"; 1 = not at all; 7 = severely). *Positive affect* ($\alpha = 0.91$) was assessed with the 10-item positive affect subscale of the PANAS (Watson, Clark, & Tellegen, 1988). Participants rated how often they had experienced certain positive emotions during the last month (e.g., "enthusiastic"; 1 = never; 7 = very often). Additionally, we employed a single-item measure of general *life satisfaction* ("How satisfied are you at present with your life altogether?"; 1 = very dissatisfied; 7 = very satisfied). Single-item measures of satisfaction are reported to be reliable and valid (e.g., Andrews & Robinson, 1991).

Interpersonal relationships

Study 1 (age 19–28). Two scales were formed with the items measuring subjective importance of people from the proximal social environment (adopted from Jugendwerk der Deutschen Shell, 1992; "How important are the people or groups of people on the following list for your life at this time?"; 1 = unimportant; 4 = very important). *Importance of parents* (father and mother) was measured by two items ($\alpha = 0.70$). *Importance of peers* ($\alpha = 0.72$) comprised three items pertaining to male best friend, female best friend, and a group of friends. In addition, *partnership status* was assessed with one item ("How would you describe your current familial/partner situation?"), which was recoded into a dichotomous variable (1 = with a partner or married; 0 = not).

Study 2 (age 28–37). Perceived proximal *social support* ($\alpha = 0.93$) was measured with the Berlin Social Support Scale (Schulz & Schwarzer, 2003). Seven items were used (e.g., "When I am worried, there is someone who helps me"; 1 = completely disagree; 7 = completely agree). Four items with the same rating scale pertained to *family support* (e.g., "My family helps me to realise my plans and goals"; $\alpha = 0.84$).

Partnership status was assessed with one item ("What is your marital status?"), recoded as in Study 1. *Partnership quality* ($\alpha = 0.91$) was measured with the Inventory for Diagnostic of Partnership (Hahlweg, 1996). Eleven items were used (e.g., "My partner is attentive to my needs and wishes, and acts accordingly"; 1 = completely disagree; 7 = completely agree).

Control variables

Sociodemographic characteristics. These included *region* (1 = West Germany; 2 = East Germany), *community size* (1 = under 2000 inhabitants; 7 = more than 500 000 inhabitants), *parental school attainment* (available only in Study 1; 1 = eight years of

education; 2 = ten years; 3 = 12 or 13 years), *parental vocational attainment* (available only in Study 1; 1 = none/semiskilled worker; 2 = skilled worker/master qualification; 3 = technical college certificate or university degree), own *age* and *gender* (1 = male; 2 = female).

Early antecedents. The following retrospective measures were available only in Study 1 (age 19–28). To form a measure of *early adversities* (adopted from Brugha, Bebbington, Tennant, & Hurry, 1985), we summed occurrences (1 = happened at least once; 0 = never) of eight critical life events (e.g., parental divorce) reported to have happened before age 16. *Pubertal timing* (based on Petersen, Crockett, Richards, & Boxer, 1988) was assessed with two different items for males (i.e., "How old were you when your voice started to break?"; answer in full years) and females (i.e., "How old were you when you had your first period?"). More than 75% of males had experienced their voice breaking at 13–15 years of age, and more than 80% of females had experienced their first period at 12–14 years of age; these formed the on-time group. Those who reported earlier/later ages were assigned to the early/late group. The resulting combined variable represented pubertal timing relative to peers of the same gender (1 = early; 2 = on-time; 3 = late). *Disclosure to parents in adolescence* ($\alpha = 0.79$) was measured by four items, two for each of the parents (Jugendwerk der Deutschen Shell, 1992; based on Stattin & Kerr, 2000): "When you were between the ages of 15 and 19, did you tell your mother/father (a) where you spent your free time after school or work? (b) what was particularly bothering you?" (1 = he/she was not interested; 5 = always). *Peer group affiliation in adolescence* was assessed with a single item (Jugendwerk der Deutschen Shell, 1992; "When you look back to when you were between 15 and 19, did you belong to a group of friends that met regularly or often and felt that they belonged together?"; 1 = yes, 2 = no).

Results

Our analyses proceeded in the following steps. First, as a preliminary analysis, we tested for a potential age bias in the retrospective reports of curfew timing. Namely, we estimated the effects of the participants' current age on the reported age of curfew autonomy. Here we employed survival analysis techniques (see Singer & Willett, 2003) taking into account censored cases (i.e., those for whom the event had not yet happened).

Second, we assessed differences in psychosocial adjustment between the early, on-time, and late groups using curfew timing as an independent variable and adjustment indicators as dependent variables. We conducted ANCOVAs, where the dependent variables were continuous, and ordinal or binary logistic regressions, where the dependent variables were categorical.[1] In all analyses, gender and age served as additional predictors. No interactions with age emerged, and only one interaction with gender was found (see below).

Third, we investigated associations between curfew timing and possible covariates (i.e., sociodemographic characteristics, early antecedents in Study 1). Specifically, we entered these variables as predictors into a multinomial logistic regression equation. Curfew timing served as the dependent variable; the early and late groups were contrasted with the on-time group. Finally, the analyses of adjustment differences across the timing groups were repeated with two sets of covariates. The first set comprised sociodemographic characteristics. The second set consisted of early antecedents (available in Study 1).

Age bias in the reported timing of curfew autonomy

Using the life table procedure, we found that in Study 1 (age 19–28) the median reported age of curfew autonomy was 17.68 years. In Study 2 (age 28–37), it was 17.50 years. Cox regression conducted on the pooled samples ($N = 2503$) showed that the age of the participants was not associated with the reported age of curfew autonomy, Exp(B) = 1.00, *ns*. Thus, a forward telescoping effect was not present.

Educational attainment

Findings on own educational attainment are presented in Table 2. In Study 1 (age 19–28), the early group reported the lowest school attainment. No differences in vocational attainment emerged. In Study 2 (age 28–37), the early group also reported the lowest school attainment. Moreover, the late group reported the highest vocational attainment.

Externalizing problem behaviour

Findings are presented in Table 3. In Study 1 (age 19–28), significant differences were found for alcohol use, tobacco use, and deviant behaviour. The early group scored highest on all these indicators, whereas the late group scored lowest. In Study 2

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[1] For continuous dependent variables, we report partial eta squared as an effect size measure. As normality assumptions were more or less violated for all such variables, we conducted parallel analyses on their logged scores. Results remained stable, and partial eta squared mostly dropped by no more than 0.003. We report greater reductions in effect size in the tables. For nominal and ordinal dependent variables, we report odds ratios, Exp(B), as an effect size measure. Odds ratios above one indicate that the members of a given timing group (e.g., late) are more likely to fall into a given category (e.g., has a steady partner) or to report higher levels of a given indicator (e.g., school attainment) than the members of a reference group (e.g., on-time). Odds ratios below one represent lower likelihood.

Table 2
Educational attainment in the early, on-time, and late groups (ordinal regression).

Variables	Curfew autonomy timing		
	Early vs. on-time	Late vs. on-time	Early vs. late
Study 1 (age 19–28)			
School attainment ($N = 1723$)	0.64**	0.99	0.65*
Controls A ($N = 1712$)	0.61***	0.97	0.63*
Controls B ($N = 1339$)	0.72*	1.04	0.70
Vocational attainment ($N = 1270$)	0.99	0.85	1.17
Study 2 (age 28–37)			
School attainment ($N = 749$)	0.50**	1.52	0.33***
Controls A ($N = 749$)	0.48***	1.41	0.34***
Vocational attainment ($N = 731$)	0.67	2.29**	0.29**
Controls A ($N = 731$)	0.68	2.11*	0.32**

Note. Exp(*B*). Controls A = with sociodemographic control variables. Controls B = with early antecedents as control variables (available only in Study 1). *p* < 0.05. **p* < 0.01. ***p* < 0.001.

(age 28–37), only data on alcohol consumption were available. Here, the early group reported larger amounts of pure alcohol consumed per day than both other groups; the late group reported even smaller amounts than the on-time group.

Subjective well-being

Findings are presented in Table 3. In Study 1 (age 19–28), the early group scored highest on negative affect. Moreover, the early group and the late group reported lower positive affect than the on-time group. In Study 2 (age 28–37), the early group reported higher negative affect and lower life satisfaction than both other groups. Positive affect did not differ significantly across the groups.

Table 3
Psychosocial adjustment in the early, on-time, and late groups (ANCOVA).

Variables	Curfew autonomy timing			F (df1, df2)	η^2
	Early	On-time	Late		
Externalizing problem behaviour					
Study 1 (age 19–28)					
Alcohol use	1.60^a (1.61)	1.26^b (1.47)	0.80^g (1.21)	13.78*** (2, 1731)	0.016
Tobacco use	1.23^a (1.16)	0.78^b (1.02)	0.58^g (0.93)	22.24*** (2, 1740)	0.025
Deviance	1.77^a (0.45)	1.48^b (0.34)	1.37^g (0.35)	68.38*** (2, 1705)	0.075^i
Study 2 (age 28–37)					
Alcohol use	30.56^a (35.59)	17.10^{bc} (20.62)	12.36^{bd} (11.55)	13.47*** (2, 517)	0.050^i
Subjective well-being					
Study 1 (age 19–28)					
Negative affect	0.67^{ac} (0.53)	0.52^b (0.45)	0.56^d (0.50)	13.04*** (2, 1741)	0.015
Positive affect	1.71^e (0.77)	1.80^{af} (0.75)	1.61^b (0.76)	7.00** (2, 1741)	0.008
Study 2 (age 28–37)					
Negative affect	2.13^{ac} (1.65)	1.73^d (1.15)	1.59^b (1.05)	5.02** (2, 748)	0.013^i
Positive affect	5.30 (1.15)	5.43 (0.93)	5.60 (0.90)	1.91 (2, 727)	0.005
Life satisfaction	4.55^a (1.63)	5.04^b (1.33)	5.27^b (1.43)	5.45** (2, 754)	0.014
Interpersonal relationships					
Study 1 (age 19–28)					
Importance of parents	3.01^a (0.87)	3.38^b (0.73)	3.45^b (0.76)	25.31*** (2, 1668)	0.030
Importance of peers	3.28^a (0.64)	3.21^c (0.64)	3.08^{bd} (0.69)	4.70** (2, 1489)	0.006
In males	3.28^a (0.62)	3.21^a (0.62)	2.91^b (0.74)	7.17** (2, 685)	0.021
In females	3.28 (0.66)	3.21 (0.65)	3.20 (0.64)	0.44 (2, 801)	0.001
Study 2 (age 28–37)					
Social support	5.62^{ac} (1.27)	5.96^{de} (0.97)	6.18^{bf} (0.88)	6.46** (2, 749)	0.017
Family support	5.13^{ac} (1.49)	5.48^d (1.22)	5.80^{bh} (1.19)	5.44** (2, 727)	0.015
Partnership quality	5.73^{ac} (1.13)	6.02^{de} (0.89)	6.24^{bf} (0.70)	5.63** (2, 509)	0.022

Note. Unadjusted *M* (*SD*). Means with superscripts *a*, *b* and *b*, *g* differ at *p* < 0.01 level; means with superscripts *c*, *d* and *d*, *h* differ at *p* < 0.05 level; means with superscripts *e*, *f* differ at *p* < 0.10 level.
**p* < 0.01. ***p* < 0.001.
^{i} For logged scores on deviance, $\eta^2 = 0.070$; on alcohol use, $\eta^2 = 0.024$; on negative affect, $\eta^2 = 0.008$.

Interpersonal relationships

Findings are presented in Tables 3 and 4. In Study 1 (age 19–28), the early group reported lower importance of parents than both other groups. In contrast, the late group scored lowest on importance of peers. A significant interaction of curfew timing with gender ($p < 0.05$) showed, however, that this effect was observed only in males (see Table 3). In addition, membership of the late group was associated with the lower likelihood of having a steady partner (see Table 4). In Study 2 (age 28–37), differences between the three groups emerged with regard to social support, family support, and partnership quality, with the early group scoring lowest and the late group scoring highest on these variables (see Table 3). No timing effects were found with respect to partnership status (see Table 4).

Sociodemographic characteristics and early antecedents as control variables

Findings on the potential covariates are presented in Table 5. In Study 1 (age 19–28), males were overrepresented in the early group. Participants from the West were underrepresented in the late group. Community size and age were not associated with curfew timing. Higher parental school attainment was associated with membership of the late group. No effects of parental vocational attainment were found. In Study 2 (age 28–37), no effects of community size, age, and gender emerged. Again, participants from the West were underrepresented in the late group.

In Study 1, four early antecedents were related to curfew timing. More early adversities, earlier pubertal timing, and lower disclosure to parents in adolescence were associated with membership of the early group. Later pubertal timing, higher disclosure to parents, and the absence of peer group affiliation in adolescence were associated with membership of the late group.

Due to the associations shown in Table 5, it was warranted to control the timing effects on psychosocial adjustment for sociodemographic characteristics and early antecedents. In both studies, effect sizes for educational attainment remained unaffected by introducing sociodemographic characteristics, but were somewhat diminished when early antecedents were taken into account (see Table 2). Moreover, controlling for sociodemographic characteristics did not lead to substantial changes in effect sizes in the ANCOVAs (the largest drop in effect size was observed for deviance in the 1996 Study, $\Delta\eta^2 = 0.004$; not shown in the tables). Introducing early antecedents produced visible reductions in effect sizes for alcohol use, tobacco use, deviance, negative affect, and importance of parents. However, all effects remained significant (see Table 6). Finally, the results for partnership status remained stable when sociodemographic characteristics and early antecedents were controlled for (see Table 4).

Discussion

Employing data from two nationally representative German studies, the present article examined psychosocial correlates of early, on-time, and late curfew autonomy in young and middle adulthood. Our findings demonstrate that the timing of behavioural autonomy does matter, and that the nature of effects differs for early and late autonomy.

Off-time behavioural autonomy and psychosocial adjustment in adulthood

In accordance with our hypotheses and prior research (e.g., Dishion et al., 2004; Smetana et al., 2004), early curfew autonomy was associated with lower adjustment in multiple domains. The early group had lower school attainment, reported more externalizing problems (deviance and substance use), and scored lower on subjective well-being, importance of parents, social support (including family support), and partnership quality than both other groups. These associations emerged in both studies, that is, in young and middle adulthood. Thus, given the cross-sectional design of the studies, we may cautiously suggest that the early acquisition of behavioural autonomy privileges is linked to a persistent trajectory of maladaptive development.

In contrast, late curfew autonomy was related to a mixed and age-graded pattern of adjustment. Results from Study 1, at younger ages (19–28 years), fully met our expectations, as the late group was well adjusted in terms of educational attainment and externalizing problems, but reported lower positive affect, lower importance of peers (males only), and had fewer

Table 4
Partnership status in the early, on-time, and late groups (binary logistic regression).

Steady partnership (yes vs. no)	Curfew autonomy timing		
	Early vs. on-time	Late vs. on-time	Early vs. late
Study 1 (age 19–28, $N = 1712$)	1.05	0.55***	1.90**
Controls A ($N = 1701$)	1.05	0.53***	1.99**
Controls B ($N = 1324$)	1.16	0.53***	2.20**
Study 2 (age 28–37, $N = 736$)	1.41	1.30	1.08

Note. Exp(*B*). Controls A = with sociodemographic control variables. Controls B = with early antecedents as control variables.
** $p < 0.01$. *** $p < 0.001$.

Table 5

Sociodemographic characteristics and early antecedents of early and late curfew autonomy (multinomial logistic regression).

Predictor variables	Curfew autonomy timing	
	Early vs. on-time	Late vs. on-time
Study 1 (age 19–28)		
Region (West vs. East Germany)	0.88	0.68*
Community size	1.04	0.93
Parental school attainment	1.19	1.45*
Parental vocational attainment	0.84	0.65
Age	0.97	1.03
Gender (males vs. females)	1.54*	0.76
Early adversities	1.40***	0.90
Pubertal timing	0.52**	1.56*
Disclosure to parents	0.56***	1.34*
Peer group affiliation (yes vs. no)	0.92	0.35***
Model $\chi^2(20, N = 1344) = 165.45^{***}$, Nagelkerke $R^2 = 0.149$		
Study 2 (age 28–37)		
Region (West vs. East Germany)	0.82	0.48**
Community size	0.94	1.05
Age	0.95	1.08
Gender (males vs. females)	1.17	0.68
Model $\chi^2(8, N = 759) = 18.93^{*}$, Nagelkerke $R^2 = 0.032$		

Note. Exp(B).
*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

chances to have a steady partner than the on-time group. Thus, the stage termination hypothesis (see Brooks-Gunn et al., 1985) applied more to overt behavioural domains, whereas the deviance hypothesis fitted internalizing problem behaviour and the interpersonal domain better (cf. Silbereisen & Kracke, 1997). However, in Study 2, at older ages (28–37 years), the late group surpassed both other groups almost in every domain. The late group had higher vocational attainment, reported fewer externalizing problems, and scored higher on social/family support and partnership quality. No significant differences in subjective well-being and partnership status emerged between the late and on-time groups. Thus, the stage termination hypothesis was supported here.

The reason for this apparent change in adjustment from young to middle adulthood in the late group may lie in the changing developmental tasks across these periods of life. At younger ages, lower involvement with peers and romantic partners may run against normative expectations and deprive the late group of some positive emotional experiences. However, higher educational attainment and abstinence from risky behaviour are seen as appropriate in middle adulthood, when occupational achievement becomes of the utmost importance. Perhaps these assets ultimately help to establish stable and satisfactory relationships with peers and with a partner, and impairments to well-being vanish.

The role of sociodemographic characteristics and early antecedents

As Rutter (1996) put it, "[F]ew life events are random occurrences. Rather, they need to be seen as the outcome of what has gone before" (p. 375). In support of this view, we found links between curfew autonomy timing and sociodemographic background as well as early antecedents. Membership of the early group was predicted by male gender (curfew rules are usually stricter for daughters). In contrast, membership of the late group was predicted by higher parental school attainment

Table 6

Summary of ANCOVAs with early antecedents as control variables (Study 1).

Variables	$df1$	$df2$	F_1	F_2	η_1^2	η_2^2
Alcohol use	2	1339	7.64**	4.25*	0.011	0.006
Tobacco use	2	1345	21.25***	11.48***	0.031	0.017
Deviance	2	1322	52.95***	32.40***	0.074	0.047
Negative affect	2	1346	12.76***	8.36***	0.019	0.012
Positive affect	2	1346	6.06**	5.13**	0.009	0.008
Importance of parents	2	1306	23.80***	4.55*	0.035	0.007
Importance of peers	2	1160	4.77**	2.73	0.008	0.005
In males	2	536	7.49**	6.12**	0.027	0.023
In females	2	621	0.22	0.42	0.001	0.001

Note. F_1, η_1^2 refer to the main effect of curfew timing in ANCOVAs with age and gender as control variables. F_2, η_2^2 refer to the main effect of curfew timing in ANCOVAs with age, gender, and early antecedents as control variables. To facilitate comparisons, each pair of analyses was conducted on the same reduced sample (after listwise deletion of cases with missing values on early antecedents).
*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$.

and East German origin. The former finding may imply middle-class status of the family, which is a common factor in delaying the transition to adulthood (Arnett, 2000). As to the regional differences, note that East Germans appeared to be over-represented not only in the late group but also in the early group, although the latter effect was not significant in our case (but was found to be significant in a previous study involving younger birth cohorts; see Haase, Tomasik, et al., 2008). This indicates more variation in curfew autonomy timing in East Germany, which may be the result of rapid social change after German reunification.

Furthermore, both early and late curfew autonomy correlated with pubertal timing (earlier and later, respectively) and with disclosure to parents in adolescence (lower and higher, respectively). Besides this, two unique associations emerged. Early curfew autonomy was related to early adversities (critical life events before age 16), whereas late curfew autonomy was negatively associated with peer group affiliation in adolescence. Thus, premature behavioural autonomy may be rooted in distorted family relationships and other psychosocial risks that are exacerbated by earlier pubertal timing (although these factors need not coincide in each particular case). In contrast, late behavioural autonomy may stem from the delay or absence of the normative shift of interests and attachments to a peer group, which may be due to later puberty and closer ties with parents.

Importantly, when we controlled the effects of curfew autonomy timing on psychosocial adjustment for sociodemographic characteristics and early antecedents, none of the timing effects vanished. The effect sizes for school attainment, externalizing problem behaviour, negative affect, and importance of parents somewhat diminished when early antecedents were taken into account, whereas the effect sizes for positive affect, importance of peers, and partnership status remained largely unaffected.

Thus, the adjustment patterns related to off-time behavioural autonomy may partly be due to early familial situation, pubertal timing, and different peer involvement in adolescence (cf. Dishion et al., 2004; Weichold et al., 2003). However, these findings also imply that timing may have effects over and above the prior developmental situation, converging with a cumulative risk model (cf. Belsky, Steinberg, & Draper, 1991). We suggest that the timing of behavioural autonomy results from a history of antecedents and entails consequences for future development. In the case of early behavioural autonomy, adolescents are exposed to situations that they are not mature enough to handle. With late behavioural autonomy, they are deprived of age-normative experiences. These and other possible mechanisms that bring about the timing effects found by us may form the agenda for future investigations.

Limitations and future research

The present studies had important limitations. The differences in psychosocial adjustment remained robust when we controlled them for sociodemographic characteristics and early antecedents of curfew autonomy timing, but the range of available control variables was restricted, and the cross-sectional design precluded causal inferences. It is possible, for example, that lower positive affect is an antecedent rather than an outcome of late behavioural autonomy. Note, however, that this does not challenge our main conclusion that the correlates of early and late behavioural autonomy are not necessarily symmetrical.

Other limitations concerned the use of self-report measures, sometimes retrospective and/or based on single items, not all of which were fully comparable across the two studies. Nevertheless, our central measure of curfew autonomy was identical in both studies, and all four domains of adjustment were assessed in both. Moreover, we conducted extensive follow-up analyses that corroborated the validity of curfew autonomy as an indicator of behavioural autonomy (see Method and Results). As to retrospective assessment in general, it is reasonably reliable and valid concerning factual information (Rutter, Maughan, Pickles, & Simonoff, 1998), particularly referring to adolescence (Conway, Wang, Hanyu, & Haque, 2005).

We hope that the present article will inspire further studies, preferably longitudinal, to follow up on our findings. In particular, future research may investigate antecedents and consequences of the timing of behavioural autonomy, also in relation to other autonomy aspects (emotional and cognitive), which we could not address. Early and late timing may be linked to different developmental pathways, and it would be especially interesting to investigate the apparent change in adjustment taking place in the late group during the adult years.

Conclusion

Expanding on prior research that focused on early timing (e.g., Dishion et al., 2004; Smetana et al., 2004), the present article examined psychosocial correlates of early, on-time, and late behavioural autonomy. We demonstrated that early and late behavioural autonomy might have distinct antecedents in childhood and adolescence and that they were related to different adjustment patterns in adulthood, which made them neither equal nor opposite to each other. Early autonomy was persistently associated with lower adjustment in multiple domains, whereas late autonomy was related to a mixed pattern of adjustment in young adulthood and to a number of positive correlates in middle adulthood.

Acknowledgements

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