

Keeping Secrets From Parents: Advantages and Disadvantages of Secrecy in Adolescence



Received December 28, 2000; accepted October 4, 2001

Traditional views regard secrecy as problematic, and associated research among adults almost exclusively focuses on its physical and psychological disadvantages for the secret-keeper. Contrary to this negative view on secrecy, this paper proposes that secrecy may have developmental functions that bear particular importance in the period of adolescence. Specifically, it should be associated with adolescents' feeling of emotional autonomy. A cross-sectional study was conducted to examine the links between secrecy and psychosocial well-being and emotional autonomy among 227 younger (12–13 years) and older (16–18 years) adolescents. Results showed that keeping secrets from parents is associated with physical and psychological disadvantages in adolescence. Confirming the prediction, however, secrecy was also related to adolescents' emotional autonomy. The theoretical and empirical implications of our findings are discussed in the context of adolescent development.

KEY WORDS: secrecy; communication; psychosocial problems and benefits.

INTRODUCTION

Most research on secrecy has focused on its detrimental impact on the adult secret-keeper, such as health problems (Pennebaker and Susman, 1988), obsessive thoughts (Lane and Wegner, 1995), and emotional distress (Finkenauer and Rimé, 1998a). In contrast, little attention has been paid to the potential benefits of secrecy. Such benefits are sometimes implied in theories on children's

development as factors contributing to children's individuation (Watson and Valtin, 1993). Yet, their role in adolescent development has not been studied. This neglect is unfortunate because secrecy may facilitate the accomplishment of one important developmental task in adolescence, namely emotional autonomy. The purpose of this study is to begin to fill this gap of knowledge about secrets. Specifically, it is aimed at examining both the disadvantages and advantages of secrecy for adolescent well-being and psychosocial development.

DISADVANTAGES OF SECRECY

Secrecy is commonly associated with "having something to hide": something shameful, furtive, or bad (Bok, 1989). Comparable to a virus, it is assumed to poison mind and body, ultimately making people physically and mentally sick. Research among adults corroborates this assumption (e.g., Finkenauer and Rimé, 1998b; Lane and Wegner, 1995; Larson and Chastain, 1990; Pennebaker and Susman, 1988). In their research, for example, Larson and Chastain (1990) found that the dispositional tendency to keep secrets, also called self-concealment, contributed

¹Assistant Professor, Department of Social Psychology, Free University, The Netherlands. Received PhD in clinical and social psychology at the University of Louvain, at Louvain-la-Neuve. Research interests are communication and relationships in adolescence and the conceptualization and measurement of secrecy. To whom correspondence should be addressed at Department of Social Psychology, Free University, van der Boechorststraat 1, 1081 BT Amsterdam, The Netherlands; e-mail: C.Finkenauer@psy.vu.nl.

²Assistant Professor, Child and Adolescent Studies, Utrecht University, The Netherlands. Received PhD at Maastricht University where was involved in longitudinal research on social influence factors in smoking and drinking of adolescents. Research interests are friendships, family relationships, and substance use and abuse in adolescence.

³Professor, Child and Adolescent Studies, Utrecht University, The Netherlands. Research interests are development of identity and relationships in adolescence.

to physical complaints and depression, above and beyond other stress factors associated with physical and psychological problems such as traumatic experiences or lack of social support. Based on these findings, Larson and Chastain (1990) conclude that secrecy, independent of the type of secret that is kept, “exacts a price and functions as an internal stressor” (p. 452). Similarly, Finkenauer and Rimé (1998b) found that people who keep emotional secrets report more physical complaints than people who do not have emotional secrets. Besides these psychological and physical disadvantages, secrecy is hypothesized to have social disadvantages among which loneliness figures prominently. By nature, secrecy separates the secret-keeper(s) from those who don’t know about the secret. This separation is suggested to lead to feelings of loneliness. “Nothing makes people more lonely, and more cut off from the fellowship of others, than the possession of an anxiously hidden and jealously guarded secret” (Jung, 1961, p. 192). Some support for this suggestion was found among college students where the tendency to keep secrets positively correlated with a measure of shyness (Ichiyama *et al.*, 1993). However, to our knowledge, there are no empirical studies that test whether secrecy is associated with loneliness among adolescents.

Taken together, research and theories on secrecy among adults suggest that the physical, psychological, and social disadvantages of secrecy may be substantial. These disadvantages appear to be associated with the very fact that people keep secrets and less with the type of secrets they keep (Finkenauer and Rimé, 1998b; Lane and Wegner, 1990; Pennebaker and Beall, 1986). Consequently, secrecy is often considered as dysfunctional and problematic for the secret-keeper, at least among adults. Because those features of secrecy that have been associated with its disadvantages (e.g., separation between secret-keeper and those who don’t know, conscious effort not to reveal the to-be-kept-secret material) are by definition part of every secret people keep, we expect the observed disadvantages of secrecy in research among adults to extend to adolescence.

ADVANTAGES OF SECRECY

While secrecy’s disadvantages have attracted the attention of researchers, its advantages have nearly escaped their attention. The potential advantages of secrecy bear particular importance for adolescence when secrecy can be argued to facilitate the second individuation process, a developmental task that is at the core of adolescence (Blos, 1979; Erikson, 1959; Steinberg and Silverberg, 1986).

Individuation Processes in Childhood and Adolescence

While the process of individuation (i.e., developing and maintaining an autonomous self) is important throughout the life-span, 2 peaks of development figure prominently in the literature. The 1st peak in individuation occurs in early childhood (Kaplan, 1987; Mahler *et al.*, 1975). One of children’s first tasks is to distance and disengage themselves from their primary caretakers and establish boundaries between “self” and “nonself” (Kaplan, 1987). This so-called first individuation process is commonly assumed to come to a completion between 3 and 5 years of age (Mahler *et al.*, 1975).

The 2nd peak in the individuation process occurs during adolescence (Blos, 1967, 1979). Adolescents have to let go of the safety of childhood and parental protection and develop a firm hold on the responsibilities and demands of adulthood. They have to relinquish of the dependence on parents and establish and consolidate their capacities of self-regulation and self-determination (e.g., Allen *et al.*, 1994; Larson *et al.*, 1996; Steinberg and Silverberg, 1986). As they grow older, adolescents become less dependent on their parents. Although parents do not become unimportant, adolescents increasingly rely on friends for social support; they do not continue to see their parents as all-knowing or all-powerful, and they become able to perceive and interact with their parents as people—not just as parents (Steinberg, 1990). This aspect of individuation that is related to changes in adolescents’ relationship with their parents refers to adolescents becoming emotionally autonomous. While other aspects of autonomy and independence have been considered in the literature (e.g., Ryan and Lynch, 1989), as we will show ahead, emotional autonomy is particularly important with respect to secrecy.

Individuation Processes and Secrecy

Paralleling the separation from close others, in particular caregivers, inherent in the individuation processes, secrecy separates those who know from those who don’t. Therefore, secrecy has been proposed to facilitate the process of individuation (Margolis, 1966; Simmel, 1950; van Manen and Levering, 1996). Specifically, to keep a secret, the secret-keeper needs to exert self-control and personal choice which are considered as indicators of the development of self and autonomy (Margolis, 1966). Secret-related self-control consists, for example, in restraining oneself from involuntarily spilling the secret. Personal choice pertains to secret-keepers’ decision whether or not to reveal the secret to others. Thus, secrecy should

contribute to the process of individuation among children and adolescents.

Research among children provides support for the suggestion that secrecy is associated with the first individuation process. To use and understand secrecy, children have to realize that they possess information that others have no access to unless they were to tell them about it. Most children at the age of 5 acquired this cognitive prerequisite for secrecy (e.g., Peskin, 1992). The emergence of the capacity to use secrecy and deception is commonly considered as an indication of children's sense of self, because it reflects that children are able to take the perspective of another person and to differentiate between themselves and others (Chandler *et al.*, 1989; Mearns and Orlay, 1988; Peskin, 1992; Pipe and Goodman, 1991). In the same vein, the contents of children's secrets mostly pertain to possessions, such as pets, objects, or places, that accentuate the separation of the self from others by the mere fact of having or owning something all by oneself (Last and Aharoni-Etzioni, 1995). Younger children (5–6 years) consider their secrets as a possession that they should keep to themselves, because it would be lost if told (Flitner and Valtin, 1985; Watson and Valtin, 1993).

Thus, secrecy and the first individuation process appear to be closely related among younger children. Paralleling the developmental task of the self in childhood, secrecy seems to provide children with a tool to practice and establish separateness and differentiation from others.

Research on secrecy in adolescence and in particular on the link between secrecy and the second individuation process is lacking. Extending findings from studies on children, secrecy in adolescence, particularly, keeping secrets from parents should be related to adolescents' feeling of autonomy from parents. To our knowledge, there are no empirical studies that investigate this potential advantage of secrecy in adolescence.

DEVELOPMENTAL ASPECTS OF SECRECY IN ADOLESCENCE

Keeping a secret requires certain skills, such as self-control (e.g., resisting the temptation to confide) and personal choice (e.g., not telling my mother but my best friend) (Margolis, 1966). It is likely that adolescents acquire these skills and use secrecy more easily with increasing age and experience (cf. Buhrmester, 1990). As compared to older adolescents, for example, younger adolescents may be less used to keeping a secret and may not yet possess the strategies necessary to protect their secrets from being discovered. Also, young adolescents may still experience keeping a secret from their parents as a "cruel

paradox" (cf. Harber and Pennebaker, 1992), for although they feel that they have a right to possess a secret from their parents, they may still perceive them as "omnipotent" authority who has even more right to know (Watson and Valtin, 1993). As adolescents become older and emotionally autonomous, they relinquish their childish perception of parental omnipotence (Steinberg and Silverberg, 1986), which may provide them with a greater feeling of right to secrecy. Accordingly, keeping a secret from one's parents may be more stressful for younger than for older adolescents. Put differently, secrecy's disadvantages should be more pronounced for younger adolescents.

VICISSITUDES OF RESEARCH ON SECRECY

The literature uses secrecy in a way that makes it difficult to identify secrecy as a unique and independent concept. Given that it taps into human communication, it is often used as the reverse side of self-disclosure (e.g., Buhrmester and Prager, 1995; Chelune *et al.*, 1984). When one considers a specific piece of information, disclosure and secrecy do indeed seem to indicate opposite processes (e.g., he kept his drunkenness secret, hence did not disclose it). Yet, in everyday life, people keep secrets and disclose information at the same time. For example, an adolescent girl may tell her parents that she has a new boyfriend, but may keep the fact that she already had sex with him secret. Thus, disclosure and secrecy in everyday life have to be considered as related but distinct constructs (cf. Larson and Chastain, 1990). To establish that secrecy from parents has disadvantages and advantages for adolescents' well-being and development of emotional autonomy, above and beyond mere "nondisclosure," it is necessary to consider disclosure when investigating secrecy in adolescence.

Although we emphasized that secrecy requires personal choice, it is possible that adolescents keep secrets because they (believe they) have no choice. On the one hand, they may have a bad relationship with their parents which prevents them from confiding personal information to them. On the other hand, they may not have peers and friends to share their secrets with. In both cases, the disadvantages and advantages of secrecy may not be due to secrecy from parents as such, but to third factors, namely a bad relationship with parents or restricted social contact with peers. To minimize the risk of these confounds artificially inflating the link between secrecy and its proposed disadvantages and advantages, it is necessary to assess the quality of adolescents' relationship with parents and the frequency of social contacts with peers when conducting research on secrecy in adolescence.

OVERVIEW

To investigate the disadvantages and advantages of secrecy for adolescent well-being and emotional autonomy, we conducted a cross-sectional study. To explore the developmental aspects of secrecy, questionnaires were distributed among 2 groups of adolescents (12–13-year-olds and 16–18-year-olds, respectively). Our hypotheses were threefold. First, the disadvantages of secrecy among adults (i.e., physical complaints, depressive mood, and loneliness) should hold for adolescents. Second, secrecy should be related to feelings of emotional autonomy. Finally, secrecy's disadvantages and advantages should vary across age with younger adolescents, as compared to their older counterparts, experiencing more disadvantages but also more advantages by keeping secrets from their parents. To separate the confounding influence of third factors, namely disclosure, quality of relationship with parents, and frequency of contact with friends and peers, from effects because of secrecy, we had to control for these factors when running the analyses tapping each of our hypotheses.

METHOD

Participants

Because the study included a comparison of younger (12–13 years) and older adolescents (16–18 years), 2 schools that provided classes covering both age-groups were approached. Both schools readily agreed to participate in the study and allowed for administration of questionnaires during lessons.

In total, 227 adolescents participated in a questionnaire study on communication and relationships in adolescence. The group of young adolescents consisted of 110 seventh graders with a mean age of 12.61 years ($SD = 0.58$) (57 females and 52 males). The group of older adolescents consisted of 23 eleventh and 94 twelfth graders with a mean age of 17.55 years ($SD = 0.86$) (60 females and 58 males). The vast majority of adolescents (96%, $N = 217$) were born in the Netherlands and held the Dutch nationality (96%, $N = 219$). Almost all adolescents lived with both parents (94%, $N = 213$); 9 adolescents (4%) lived with their mothers, 2 adolescents lived with their father, 1 adolescent lived by her/himself, and 2 lived in other living-arrangements.

Questionnaires

Participants received a large battery of questionnaires. Only those questionnaires relevant to the questions

addressed in this paper will be presented here. Results pertaining to the remaining parts of the questionnaire are reported elsewhere (Finkenauer and Meeus, 1999).

Secrecy From Parents

To assess secrecy from parents, we adapted Larson and Chastain's Self-Concealment Scale (SCS; Larson and Chastain, 1990). The original SCS consists of 10 items assessing (a) the tendency to keep things to oneself, (b) the possession of a secret or negative thoughts not shared with others, and (c) the apprehension of the revelation of concealed personal information. To assess secrecy from parents, we adapted the original items simply by adding parents as the target of adolescents' secrecy. The items "My secrets are too embarrassing to share with others" and "I have negative thoughts about myself that I never share with anyone," for example, became "My secrets are too embarrassing to share with my parents" and "I have negative thoughts about myself that I never share with my parents," respectively. Adolescents rated all items on 5-point scales (1 – not at all, 5 – extremely). In our study, the scale had high internal consistency (Cronbach's $\alpha = 0.81$). Adolescents' ratings were averaged to establish a secrecy from parents score; higher values indicated greater secrecy.

Physical Complaints

To assess adolescents' physical complaints, we used Sikkel's Physical Wellness Scale (Sikkel, 1980). Thirteen items assess the extent to which a person suffers from minor physical complaints (e.g., headaches, nausea, tiredness). Respondents rated whether or not they experienced each complaint on a regular basis (yes vs. no). Their answers were summed to establish a physical complaints score. Higher scores indicated more physical complaints.

Depressive Mood

Kandel and Davies' 6-item Kandel Depression Scale (Kandel and Davies, 1982) was used to assess depressive mood. Respondents rated the frequency (0 – never, 4 – always) with which they experienced symptoms of depressive mood such as feeling nervous and tensed (Cronbach's $\alpha = 0.75$). Their responses were averaged to yield a depressive mood score; higher values indicated more frequent feelings of depression.

Loneliness

Loneliness was assessed using the revised UCLA Loneliness scale (Russel *et al.*, 1980) which was translated

into Dutch with the use of a translation-back-translation procedure. The scale consists of 20 statements concerning the extent to which people feel lonely (e.g., I feel left out). Respondents rated the items on 5-point scales (1 – not at all true for me, 5 – very true for me). In our study, the internal consistency was high (Cronbach's $\alpha = 0.92$). Adolescents' responses were averaged to yield a loneliness score; higher values indicated greater feelings of loneliness.

Emotional Autonomy

The Dutch version of the emotional autonomy scale (original by Steinberg and Silverberg, 1986, translated and validated by Goossens, 1997) was used to assess emotional autonomy in adolescents' relationships with parents. The scale includes 2 cognitive and 2 affective subscales. The cognitive subscales are "Deidealization," which taps adolescents' relinquishing of childish perceptions of parental omnipotence (Cronbach's $\alpha = 0.67$), and "Perception of parents as people," which taps the extent to which adolescents perceive parents as agents functioning independently from them (Cronbach's $\alpha = 0.70$). The affective subscales are "Nondependency on parents," which assesses the absence of childish dependency from parents (Cronbach's $\alpha = 0.50$), and "Individuation," which taps the extent to which adolescents perceive themselves as individuals functioning independently from their parents (Cronbach's $\alpha = 0.72$). The total scale showed high internal consistency (Cronbach's $\alpha = 0.84$). Given the low consistency of Nondependency, this subscale was not considered in the analyses. Respondents rated the items on 5-point scales (1 – not at all true for me, 5 – very true for me). Four scores were established by averaging participants' scores on the corresponding items of the subscales: (1) Deidealization, (2) Perception of parents as people, (3) Individuation, and (4) Emotional Autonomy. The total scale showed high internal consistency (Cronbach's $\alpha = 0.84$). Scores were established by averaging respondents' answers; higher values indicate greater deidealization, perception of parents as people, individuation, and emotional autonomy.

Disclosure Towards Parents

To assess adolescents' disclosure towards parents, we used an adapted version of the Self-Disclosure Index (SDI; Miller *et al.*, 1983). The SDI consists of 10 items assessing general self-disclosure in same-sex relationships. Because we wanted to assess adolescents'

willingness to disclose personal information to parents, we adapted the items by asking them to rate to what extent they disclose information (e.g., personal habits, deepest feelings, what they like or dislike about themselves) about themselves to their parents. Adolescents rated the 10 items on 5-point scales (1 – not at all, 5 – extremely). In our study, the disclosure scale showed high internal consistency (Cronbach's $\alpha = 0.83$). Adolescents' ratings were averaged to establish a disclosure to parents score; higher values on these scores indicated greater disclosure.

Quality of Relationship With Parents

To assess the quality of the relationship with parents, adolescents completed a modified version of Vangelisti's Family Satisfaction Questionnaire (Vangelisti, 1994). This questionnaire was originally designed to assess adolescents' satisfaction with their family relationships (Vangelisti, 1994; Vangelisti and Caughlin, 1997). We adapted the instructions in such a way that they referred to the relationship adolescents have with their parents. The measure was used to evaluate relationship quality, because it does not include items referring to interpersonal behaviors related to communication (e.g., I can talk openly with my parents). Consequently, it does not yield artificially high correlations with interpersonal behaviors such as secrecy and disclosure (see Fincham and Bradbury, 1987, for a detailed discussion on this measurement issue). Respondents rated their relationship with parents on 10 sets of antonyms (e.g., boring–interesting, enjoyable–miserable, worthwhile–useless). Each set of antonyms was rated on 7-point bipolar scales with the antonyms as anchors (e.g., 1 – very pleasant, 4 – neither nor, 7 – very unpleasant). In our study, the scale showed high internal consistency (Cronbach's $\alpha = 0.86$). Adolescents' ratings were averaged to establish a quality of relationship with parents score; higher values indicated greater quality of the relationship.

Frequency of Contact With Friends and Peers

To assess the frequency of contact with friends and peers, adolescents rated how many hours they had spent in the course of the last week with (a) their best friend and (b) their friends in general. Additionally, they were asked to rate how many hours they had spent alone (Engels *et al.*, 1999). They rated these items on 5-point scales (1 = less than 1 h, 2 = 1–3 h, 3 = 4–6 h, 4 = 7–10 h, and 5 = more than 11 h).

RESULTS

Descriptive Analyses: Age and Sex Differences

Table I provides data on the means and standard deviations for the variables assessed in this study. To examine differences between the 2 groups of adolescents and explore sex differences that are commonly found in research on adolescent–parent communication (e.g., Youniss and Smollar, 1985; for a review, see Buhrmester and Prager, 1995), we conducted separate 2-way analyses (ANOVAs) with age-group (younger vs. older adolescents) and sex (female vs. male adolescents) as between-subjects factors.

Many adolescents reported keeping some secrets from their parents. The degree to which they reported keeping secrets from their parents did not vary across age or sex. Female adolescents reported more physical complaints ($M = 3.45$), $F(1, 223) = 6.03$, $p < 0.05$, and more frequent depressive mood ($M = 1.62$) than did their male counterparts ($M = 2.60$ and $M = 1.28$, respectively), $F(1, 222) = 17.23$, $p < .001$. No main or higher order effects emerged for loneliness. Although many adolescents reported experiencing some loneliness, these feelings were not very pronounced among adolescents in our sample ($M = 2.03$ on a 5-point scale). The analysis regarding emotional autonomy, secrecy's hypothesized benefit, revealed that older adolescents reported greater emotional autonomy ($M = 3.19$) than did younger adolescents ($M = 3.19$), $F(1, 223) = 7.07$, $p < 0.01$, reflecting an increased independence from parental supervision and protection.

Adolescents' reported disclosure to parents varied across sex, $F(1, 223) = 4.21$, $p < 0.05$. Female adolescents reported disclosing more personal information to their parents ($M = 3.29$) than did male adolescents ($M =$

3.11). A main effect for age-group, $F(1, 223) = 5.46$, $p < 0.05$, revealed that younger adolescents reported disclosing more information to their parents ($M = 3.30$) than did older adolescents ($M = 3.10$). These main effects were moderated by a significant interaction, $F(1, 223) = 1.97$, $p < 0.05$. The decrease in disclosure to parents was particularly pronounced among older adolescent boys ($M = 2.92$), as compared to all 3 other groups which did not differ significantly from each other ($M = 3.28$ – 3.30). For quality of relationship with parents, a main effect for age-group, $F(1, 223) = 7.51$, $p < 0.01$, yielded that older adolescents' relationship with parents was less good than younger adolescents' relationship with parents. We want to point out, however, that the quality of adolescents' relationship with their parents was very high both for younger and older adolescents (5.95 and 5.62, respectively on a 7-point scale). With respect to frequency of contact with friends and peers, for the most part, younger and older adolescents reported spending more time with their best friend or friends in general than alone (see Table I for details). Older adolescents reported spending more time alone ($M = 3.96$) than did younger adolescents ($M = 2.94$), $F(1, 218) = 29.48$, $p < 0.01$.

Disadvantages of Secrecy From Parents

To examine whether the disadvantages of secrecy found among adults extend to adolescents, we conducted hierarchical multivariate regression analyses to assess the respective importance of (1) demographic variables (i.e., age-group, sex), (2) third variables (i.e., disclosure towards parents, quality of relationship with parents, time spent with best friend, friend, and alone), and (3) secrecy towards parents in predicting the physical, psychological, and social disadvantages of secrecy in adolescence

Table I. Means and Standard Deviations for Secrecy, its Disadvantages and Advantages, and Potential Confounds

Variable	Younger adolescents		Older adolescents		Female adolescents		Male adolescents	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secrecy parents	2.18	0.68	2.29	0.54	2.22	0.56	2.25	0.66
Physical complaints	2.92	2.55	3.15	2.67	3.45	2.56	2.60*	2.60
Depressive mood	1.42	0.64	1.50	0.62	1.62	0.60	1.28**	0.62
Loneliness	2.04	0.52	2.02	0.53	2.04	0.51	2.02	0.54
Emotional autonomy	3.02	0.51	3.19**	0.46	2.31	0.51	2.25	0.56
Disclosure parents	3.30	0.65	3.11*	0.55	3.29	0.61	3.11*	0.60
Quality of relationship parents	5.95	0.80	5.62**	0.99	5.82	0.87	5.74	0.97
Time spent with best friend	3.78	1.30	3.58	1.36	3.81	1.30	3.54	1.36
Time spent with friends	3.73	1.28	3.81	1.11	3.85	1.12	3.68	1.26
Time spent alone	2.94	1.53	3.96**	1.47	3.40	1.51	3.55	1.42

Note. Asterisk indicates significant difference: * $p < 0.05$; ** $p < 0.01$.

Table II. Correlation Matrix of the Variables Assessed in This Study

Variable	1	2	3	4	5	6	7	8	9	10
Secrecy parents	1.00									
Physical complaints	0.334	1.00								
Depressive mood	0.402	0.402	1.00							
Loneliness	0.248	0.194	0.348	1.00						
Emotional autonomy	0.595	0.284	0.337	0.019	1.00					
Disclosure parents	-0.459	-0.202	-0.110	-0.169	-0.526	1.00				
Quality of relationship parents	-0.442	-0.171	-0.223	-0.221	-0.459	0.414	1.00			
Time spent with best friend	-0.013	0.030	0.010	-0.136	-0.030	-0.001	0.104	1.00		
Time spent with friends	-0.018	0.036	-0.038	-0.245	0.007	0.000	0.056	0.496	1.00	
Time spent alone	0.147	0.104	0.089	0.061	0.174	-0.087	-0.113	-0.055	-0.044	1.00
Mean	2.24	3.04	1.46	2.03	3.10	3.20	5.78	3.68	3.77	3.47
Standard deviation	0.61	2.61	0.63	0.53	0.49	0.61	0.92	1.33	1.19	1.47

Note. Correlation coefficients >0.13 are significant at $p < 0.05$.

(Table II provides detailed information concerning the interrelations between the variables assessed in this study).

Physical Complaints

Paralleling the results reported above, sex predicted physical complaints when entered by itself in Step 1 ($\beta = -0.16$) and in the final regression equation ($\beta = -0.19$) (see Table III). Female adolescents reported more physical complaints than did male adolescents. Disclosure to

parents predicted physical complaints when entered in Step 2 ($\beta = -0.20$). In the final regression equation, however, the predictive power of disclosure to parents disappeared when secrecy from parents was included. Specifically, the addition of secrecy from parents increased the predicted variance in physical complaints from $R^2 = 0.10$ to $R^2 = 0.15$, $F(1, 211) = 11.19$, $p < 0.01$, an increase of 5%. With respect to physical complaints in adolescence, these results suggest that disclosure matters less than secrecy when it comes to adolescents' physical complaints.

Table III. Summary of Hierarchical Regression Analyses for Disadvantages of Secrecy in Adolescence ($N = 227$)

Variable	Physical complaints			Depressive mood			Loneliness		
	B	β	R^2	B	β	R^2	B	β	R^2
Step 1			0.03*			0.09**			0.03
Age-group	0.23	0.04		0.07	0.06		-0.04	-0.09	
Sex	-0.85	-0.16*		-0.36	-0.29**		-0.05	-0.09	
Step 2			0.10**			0.15**			0.13**
Age-group	-0.22	-0.04		-0.02	-0.01		-0.11	-0.10	
Sex	-1.1	-0.20**		-0.40	-0.32**		-0.10	-0.09	
Disclosure parents	-0.88	-0.20**		-0.10	-0.10		-0.13	-0.15*	
Quality of relationship	-0.28	-0.10		-0.12	-0.18*		-0.09	-0.15*	
Time spent with best friend	0.02	0.01		0.00	0.01		-0.08	-0.01	
Time spent with friends	0.06	0.02		-0.03	-0.05		-0.10	-0.23**	
Time spent alone	0.16	0.09		0.03	0.07		0.02	0.05	
Step 3			0.15**			0.24**			0.14**
Age-group	-0.12	-0.02		0.02	0.01		-0.10	-0.09	
Sex	-0.98	-0.19**		-0.37	-0.30**		-0.09	-0.09	
Disclosure parents	-0.46	-0.11		0.04	0.04		-0.09	-0.10	
Quality of relationship	-0.07	-0.02		-0.05	-0.07		-0.07	-0.12	
Time spent with best friend	0.01	0.00		0.00	0.00		-0.04	-0.01	
Time spent with friends	0.06	0.03		-0.02	-0.05		-0.10	-0.23**	
Time spent alone	0.12	0.07		0.02	0.04		0.01	0.04	
Secrecy towards parents	1.1	0.26**		0.38	0.37**		0.11	0.12	

Note. Variables are coded such that high values indicate older adolescents for age-group and male for sex.

* $p < 0.05$; ** $p < 0.01$.

Depressive Mood

The results for the regression analysis concerning depressive mood paralleled those for physical complaints (see Table III). Sex emerged as first order predictor of depressive mood when entered by itself in Step 1 ($\beta = -0.29$) and in the final regression equation ($\beta = -0.30$), with female adolescents experiencing more depressive mood than their male counterparts. Quality of the relationship with parents emerged as first order predictor of depressive mood when entered in Step 2 ($\beta = -0.18$). In the final regression equation, however, the predictive power of quality of relationship with parents disappeared when secrecy from parents was included. The addition of secrecy from parents increased the predicted variance in depressive mood from $R^2 = 0.15$ to $R^2 = 0.24$, $F(1, 211) = 25.99$, $p < 0.01$, an increase of 9%. The quality of the adolescents' relationship with their parents appears to be reflected in adolescents' secrecy from their parents when it comes to depressive mood. The quality of the relationship with parents seems to affect depressive mood indirectly through secrecy.

Loneliness

The results of the analysis concerning loneliness did not confirm our prediction that secrecy has social disadvantages, at least not secrecy from parents (see Table III). Secrecy did not emerge as a first order predictor of loneliness when all other variables were controlled for. Disclosure to parents, quality of relationship with parents, and time spent with friends in general were all negatively related with loneliness when entered in Step 2 ($\beta = -0.15$, $\beta = -0.15$, and $\beta = -0.23$, respectively). The influence of disclosure to parents and quality of relationship with parents became nonsignificant when secrecy from parents was entered in the final equation. The only predictor that remained influential for adolescents' feelings of loneliness was time spent with friends in general ($\beta = -0.23$). The less time adolescents reported spending with their friends, the more they reported feeling lonely. These results suggest that loneliness in adolescence is mainly determined by adolescents' relationships outside the family rather than by their relationships with their parents.

Developmental Aspects in the Disadvantages of Secrecy

We predicted that age would moderate the disadvantages of secrecy. To examine whether the interaction between secrecy and age-group would add to the explained

variance of the disadvantages of secrecy, we added the interaction effect to the above described regression equations. All continuous variables were standardized before the interaction term and regression statistics were calculated (Aiken and West, 1991). None of the three regression analyses showed an effect for the interaction term. It thus seems that secrecy from parents takes its toll independent of the age of the adolescent secret-keeper.

Advantages of Secrecy From Parents

A hierarchical multivariate regression analysis examined whether secrecy contributes to the second individuation process by enhancing to adolescents' emotional autonomy from parents. To present a more credible case for the advantages of secrecy for emotional autonomy, the hierarchical regression controlled for physical complaints and depressive mood, before regressing emotional autonomy scores on secrecy. As can be seen in Table IV, age-group emerged as first order predictor of emotional autonomy when entered in Step 1 ($\beta = 0.19$), but this effect disappeared when disclosure to parents and quality of the relationship with parents were included in the equation (see Step 2). In light of the earlier findings showing that both these variables varied across age (see Table I), this result suggests that it is less the age of an adolescent that determines her/his feelings of emotional autonomy. Rather it seems that what happens in the relationship with her/his parents (i.e., disclosure and quality) that affects feelings of emotional autonomy. Indeed, disclosure to parents and quality of the relationship with parents both contributed negatively to emotional autonomy ($\beta = -0.27$ and -0.14 , respectively), even when adding secrecy from parents in Step 4. As can be seen, these results held when controlling for depressive mood and physical complaints (Steps 3 and 4). These findings suggest that the more adolescents disclose to their parents and the better their relationship with their parents, the less developed are their feelings of emotional autonomy. Importantly, however, the analysis confirmed our prediction that secrecy contributes to adolescents' feeling of autonomy ($\beta = 0.39$). The addition of secrecy from parents increased the predicted variance in autonomy from $R^2 = 0.42$ to $R^2 = 0.50$, $F(1, 209) = 33.10$, $p < 0.01$, an increase of 8% above and beyond the influence of all other (confounding) variables. Thus, adolescents who keep secrets from their parents perceive themselves as emotionally autonomous.

Findings by Frank *et al.* (1990) indicate that the deidealization subscale of the emotional autonomy scale may be particularly relevant for adolescents' progress in identity formation. In their study among late adolescents,

Table IV. Summary of Hierarchical Regression Analyses for Advantages of Secrecy in Adolescence ($N = 227$)

Variable	Emotional autonomy			Deidealization			Parents as people			Individuation		
	<i>B</i>	β	R^2	<i>B</i>	β	R^2	<i>B</i>	β	R^2	<i>B</i>	β	R^2
Step 1			0.04*			0.07*			0.02			0.03*
Age-group	0.19	0.19**		0.30	0.26**		-0.15	-0.12 [†]		0.23	0.17*	
Sex	-0.00	-0.05		-0.09	-0.08		-0.07	-0.05		-0.04	-0.03	
Step 2			0.38**			0.39**			0.15**			0.32**
Age-group	0.03	0.03		0.12	0.10 [†]		-0.27	-0.22**		0.04	0.03	
Sex	-0.13	-0.13*		-0.17	-0.15**		-0.11	-0.09		-0.16	-0.12*	
Disclosure parents	-0.34	-0.42**		-0.32	-0.33**		-0.11	-0.10		-0.52	-0.46**	
Quality of relationship	-0.14	-0.27**		-0.21	-0.34**		-0.20	-0.30**		-0.12	-0.17**	
Time spent with best friend	-0.01	-0.02		-0.00	-0.01		-0.02	-0.04		0.02	0.04	
Time spent with friends	0.01	0.02		0.02	0.05		0.00	0.01		-0.09	-0.01	
Time spent alone	0.03	0.10 [†]		0.05	0.12*		0.03	0.06		0.04	0.09	
Step 3			0.42**			0.42*			0.20**			0.37**
Age-group	0.03	0.03		0.12	0.10 [†]		-0.27	-0.21**		0.05	0.03	
Sex	-0.06	-0.06		-0.11	-0.10 [†]		-0.02	-0.02		-0.06	-0.05	
Disclosure parents	-0.32	-0.39**		-0.30	-0.30**		-0.09	-0.09		-0.49	-0.43**	
Quality of relationship	-0.12	-0.23**		-0.19	-0.31**		-0.17	-0.26**		-0.09	-0.13*	
Time spent with best friend	-0.01	-0.02		-0.00	-0.01		-0.02	-0.04		0.02	-0.03	
Time spent with friends	0.01	0.03		0.03	0.06		0.01	0.02		-0.04	-0.01	
Time spent alone	0.03	0.08		0.04	0.10 [†]		0.02	0.04		0.03	0.07	
Depressive mood	0.16	0.21**		0.13	0.14*		0.25	0.26**		0.20	0.19**	
Physical complaints	0.01	0.02		0.01	0.04		-0.010	-0.04		0.01	0.05	
Step 4			0.50**			0.13**			0.29**			0.48**
Age-group	0.06	0.06		0.14	0.12*		-0.23	-0.19		0.09	0.06	
Sex	-0.08	-0.08		-0.08	-0.10 [†]		-0.04	-0.03		-0.09	-0.06	
Disclosure parents	-0.22	-0.27**		-0.24	-0.24**		0.04	0.04		-0.32	-0.28**	
Quality of relationship	-0.08	-0.14*		-0.17	-0.27**		-0.11	-0.17*		-0.02	-0.03	
Time spent with best friend	-0.02	-0.03		-0.00	-0.01		-0.02	-0.05		0.01	0.03	
Time spent with friends	0.01	0.04		0.00	0.06		0.01	0.02		-0.00	-0.00	
Time spent alone	0.02	0.06		0.00	0.09		0.01	0.02		0.02	0.04	
Depressive mood	0.09	0.11		0.01	0.09		0.15	0.15 [†]		0.08	0.07	
Physical complaints	0.10	0.08		0.01	0.03		-0.01	-0.06		0.01	0.03	
Secrecy towards parents	0.29	0.36**		0.17	0.18**		0.39	0.38**		0.48	0.43**	

Note. Variables are coded such that high values indicate older adolescents for age-group and male for sex.

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

they found that deidealization discriminated between adolescents classified as identity achieved and identity foreclosed. To investigate whether the results varied as a function of subscales of emotional autonomy, we separately conducted the above described hierarchical regression analyses for deidealization, perception of parents as people, and individuation. As can be seen in Table IV, there were small variations in the pattern of first order predictors for each subscale. However, secrecy from parents consistently emerged as a first order predictor for all 3 subscales, even when all other variables were controlled for.

Developmental Aspects in the Advantages of Secrecy

Again, we predicted that age would moderate the link between secrecy and autonomy. To examine whether the interaction between secrecy and age-group would add to

the explained variance of emotional autonomy, we added the interaction term to the above described hierarchical regression analysis (Aiken and West, 1991). No significant effect emerged. It thus seems that secrecy from parents contributes to feelings of emotional autonomy independent of the age of the adolescent secret-keeper.

DISCUSSION

This study represents a first attempt to investigate the disadvantages and advantages of secrecy in adolescence. Contrary to traditional views on secrecy, which almost exclusively consider the disadvantages of secrecy, we proposed that secrecy may help adolescents to maximize their developmental benefit when dealing with parents by facilitating the second individuation process, more specifically, by contributing to their emotional autonomy.

Keeping secrets from parents was associated with physical complaints and depressive mood in adolescence. Confirming our prediction, secrecy emerged as an important predictor of adolescents' feelings of emotional autonomy. No evidence for developmental aspects in the use of secrecy emerged. The results for secrecy's disadvantages and advantages held even when controlling for the influence of confounding variables, including disclosure to parents, quality of relationship with parents, and time spent with friends. Taken together, these results provide the first evidence that secrecy in adolescence may be a beneficial albeit costly means to accomplish a developmental task that figures prominently in adolescence, namely becoming emotionally autonomous.

Disadvantages of Secrecy in Adolescence

Consistent with existing findings (Finkenauer and Rimé, 1998b; Larson and Chastain, 1990; Pennebaker and Susman, 1988), secrecy from parents was associated with substantial physical and psychological disadvantages for adolescents. The question arises, how secrecy from parents may affect adolescents' well-being? It is possible that secrecy, independent of whether the secrets are kept from parents or other people and independent of the content of the secret that is kept, affects adolescents' well-being (e.g., Pennebaker, 1989). Specifically, keeping a secret requires work. It requires physical work, because the secret-keeper has to actively restrain him/herself from revealing the secret (e.g., biting one's tongue, hiding things, preventing oneself from doing or expressing secret-related information). It requires psychological work, because the secret-keeper has to constantly monitor his/her behavior, feelings, and thoughts. This work and effort associated with secrecy may over time wear and tear both body and mind, ultimately leading to physical and psychological problems (e.g., Lane and Wegner, 1995; Pennebaker, 1989). Another explanation derives from the increase in self-consciousness and heightened self-presentational concerns that are characteristic for the period of adolescence (e.g., Finkenauer *et al.*, 1999). Adolescents often feel it is undesirable to admit one's shortcomings, because they falsely assume that "everybody else" is coping effectively, and they alone are failing. By keeping their shortcomings and worries secret from their parents, adolescents deprive themselves of an important source of social support, social validation, and affection, which may lead to physical complaints and depression. A final but related explanation derives from the adolescent self. The self becomes increasingly differentiated throughout adolescence (Harter, 1998). Adolescents display different attributes in different relationships to gain

the approval of others (e.g., assertive with friend, submissive with parent). In some cases, the construction of the adolescent self may be so highly dependent on the approval of significant others, that a false self is created (Harter, 1999). If adolescent secrecy from parents were motivated by the need to deny the core self to please parents, negative outcomes such as depression and physical complaints may emerge. More studies, especially longitudinal studies that allow examining secrecy's role in the onset of physical and psychological problems, are needed to contrast different explanations for the observed physical and psychological disadvantages of secrecy.

We did not find support for our prediction that secrecy from parents is associated with feelings of loneliness. For the purposes of our study, we focused on adolescents' relationship with their parents and the development of emotional autonomy. A partly related and equally important developmental task in adolescence consists in the formation of peer relationships (e.g., Blos, 1979; Grotevant and Cooper, 1986). Belonging to a popular group, for example, is an important goal for adolescents (Berndt, 1996). Having at least 1 friend to confide in is an indicator of social competence (Hartup, 1996). Being rejected by peers, on the contrary, indicates social failure and is associated with loneliness, anxiety, and low self-esteem (Coie, 1990; Renshaw and Brown, 1993). Peer relationships may thus be more important determinants of adolescent loneliness than the parental relationship that was the focus in our study. In line with this suggestion, loneliness in adolescence was predicted by the amount of time adolescents reported spending with their friends but not by variables tapping the adolescent-parent relationship. In this perspective, secrets adolescents keep from their friends, rather than secrets they keep from their parents, may be determinants of adolescent loneliness.

Advantages of Secrecy in Adolescence

Confirming our prediction, secrecy from parents clearly contributed to adolescents' overall feeling of emotional autonomy even when controlling for the confounding influence of third variables (i.e., disclosure, quality of relationship with parents, and frequency of contact with friends and peers) and depressive mood and physical complaints. Also, secrecy from parents contributed to all subscales of emotional autonomy. In fact, it emerged as the only first order predictor that consistently contributed to all 3 of the examined subscales of the emotional autonomy scale. Research on the mechanisms underlying the observed link is now called for. Different mechanisms can be derived from features inherent in secrecy. First, by actively keeping a secret from their parents, adolescents

may establish a metaphoric boundary between themselves and their parents (cf. Petronio, 1991). They regulate this boundary by revealing or concealing information from their parents. This self-regulation may provide adolescents with a sense of self-determination and independence from their parents (cf. Margolis, 1966). Additionally, it may provide them with an opportunity to free themselves from parental supervision and control and establish privacy (Buhrmester and Prager, 1995). Second, by keeping secrets from their parents, adolescents may determine—in part—how parents view their self and thereby consolidate their identity (cf. Kelly, 1998). Thus, certain features of secrecy can be assumed to promote important aspects of autonomy, including separation from parents, self-control, personal choice, and identity (Allen *et al.*, 1994; Deci and Ryan, 1991; Steinberg and Silverberg, 1986).

An issue that warrants caution concerns our conceptualization and assessment of emotional autonomy as developmental advantage. While some authors emphasize that autonomy reflects self-determination and self-governance (Ryan *et al.*, 1995; Ryan and Lynch, 1989), others emphasize that autonomy reflects (changes in) adolescents' relationship with their parents (Steinberg, 1990; Steinberg and Silverberg, 1986). One important feature of emotional autonomy consists in relinquishing dependence on parents. While the decreased dependence on parents may increase adolescents' feelings of independence and self-control, it may, at the same time, be associated with detachment from parents (Frank *et al.*, 1990; Fuhrman and Holembeck, 1995). Detachment from parents may be a consequence of increases in emotional autonomy, or it may be a chronic feature of the adolescent–parent relationship. In both cases, however, it may have negative psychosocial consequences, such as a drop in perceived parental acceptance, self-esteem, and perceived competence (Ryan and Lynch, 1989). Achieving emotional autonomy in adolescence may not only imply a gain in emotional autonomy but also a loss of safety and parental protection (Allen and Land, 1999). In this study, emotional autonomy was associated with psychosocial disadvantages (see Table II). In this sense, emotional autonomy appears to be more of a developmental tradeoff than a developmental benefit (Allen and Land, 1999; Fuhrman and Holembeck, 1995; Steinberg, 1990): It is a double-edged sword in that it may be linked to perceptions of greater self-governance but also to feelings of insecurity (Frank *et al.*, 1990).

Although it remains yet to be examined how secrecy contributes to emotional autonomy, secrecy does not seem to deserve the unsavory reputation it acquired through studies on its disadvantages for the adult secret-keeper. Indeed, our findings provide preliminary support for the suggestion that the disadvantages and advantages of secrecy

from parents are, at least partly, independent. Rather than being exclusively “bad,” secrecy in adolescence may be a mixed blessing. It may facilitate the accomplishment of developmental tasks by enhancing adolescents' emotional autonomy and independence, but at the same time, it may exert a prize in the form of physical complaints and depressive mood.

Developmental Aspects of Secrecy in Adolescence

Based on the assumption that secrecy requires a variety of cognitive, behavioral, and affective skills, we suggested that older adolescents would be more skillful and more used to using secrecy in their contacts with parents. Consequently, we predicted that older adolescents experience fewer disadvantages of secrecy. Our findings did not support this hypothesis. On the one hand, it is possible that skills associated with secrecy are acquired earlier than in the period of adolescence. Children from the age of 5 appear to be capable to keep secrets (e.g., Pipe and Wilson, 1994; for a review see Pipe and Goodman, 1991) and possess the cognitive prerequisites for secrecy (e.g., Peskin, 1992). Once they acquire these skills, they may practice secrecy and reach a plateau in their level of secret-related skills before they enter adolescence. To examine this suggestion more systematically, it would be necessary to include both children and adolescents in studies on secrecy. On the other hand, it is possible that our measures were insensitive to detect different levels of secret-related skills among adolescents. Future studies should include measures that directly assess adolescents' secret-related feelings and thoughts for a more comprehensive understanding of how younger and older adolescents experience secrecy from their parents.

Vicissitudes of Research on Secrecy in Adolescence

The link between secrecy from parents and the hypothesized disadvantages and advantages is vulnerable to the influence of a variety of confounding factors. First, secrecy may be the opposite of disclosure, that is, adolescents who keep secrets from their parents may disclose less to them. If secrecy from parents were the reverse side of adolescents' disclosure to them, research on secrecy in adolescence would not warrant research in its own right. Our findings, however, provide compelling evidence for the suggestion that secrecy and disclosure are, although related, independent constructs (Larson and Chastain, 1990). Secrecy from parents contributed to physical complaints, depressive mood, and emotional autonomy, above and beyond disclosure to parents. Also, the effects of secrecy

on all of these variables were much more powerful than those of disclosure, suggesting that it is what adolescents intentionally keep secret from their parents that determines their well-being and psychosocial development rather than what they disclose to them.

Second, secrecy may be the result of adolescents' bad relationship with their parents. If this assumption were to hold, the relation between secrecy and physical complaints, depressive mood, and emotional autonomy would actually reflect the quality of the adolescent-parent relationship rather than effects of secrecy. Again, our findings showed that the observed links between secrecy and the assessed variables held, even when controlling for the quality of adolescents' relationship with parents. Secrecy is thus more than a mere byproduct of the quality of adolescents' relationships with parents. It independently contributes to adolescents' psychosocial well-being and appears to be a central factor in adolescents' feelings of autonomy.

Third, one could argue that secrecy is a secondary effect of adolescents' restricted social contact with people outside the family. Adolescents may have to keep secrets from their parents because they do not have trusted confidants among their peers (cf. Kelly and McKillop, 1996). Our results do not support this suggestion. Secrecy from parents was unrelated to the time adolescents reported spending with their best friend or with friends in general. Also, secrecy from parents showed no relation with the time adolescents reported spending alone. These findings fit with the suggestion that secrecy is the result of an active and conscious decision of the secret-keeper rather than her/his passive reaction to social circumstances (e.g., Brown-Smith, 1998; Finkenauer, 1998).

Taken together, our findings converge to suggest that secrecy is a powerful mechanism in adolescent well-being and psychosocial development. Moreover, they suggest that secrecy is a complex but unique concept that warrants research in its own right, especially in the period of adolescence.

Limitations of the Study

Because we were interested in investigating secrecy in adolescence, we opted for assessing secrecy from parents. Other types of secrets in adolescence exist, such as secrets that adolescents share with their best friends or families (Vangelisti, 1994). It is possible that secrets' impact on adolescents' well-being and development varies across the type of person from whom the secret is kept and/or with whom it is shared. For example, secrets that adolescents keep from their parents but share with their best friend may be more advantageous to their development than those that adolescents keep from everybody. In

the first case, adolescents may kill 2 birds with 1 stone in that they mark independence from their parents and, at the same time, develop their own social network (Buhrmeister, 1990; Hartup, 1996). In the second case, however, they mark independence from parents but fail to build their own social network in that they may not possess a confidant to share their secret with. In this case, secrecy could be particularly painful and costly for the adolescent (cf. Kelly and McKillop, 1996). More research is needed to investigate these suggestions.

Second, our measure of secrecy from parents did not allow to distinguish between different secret contents. The existing empirical evidence suggests that it is less the content of the secret than the very fact that a secret is kept that negatively affects the secret-keeper (e.g., Lane and Wegner, 1995). However, one could argue that there are certain secret contents that are more likely to be associated with emotional autonomy than others. To illustrate, secrecy concerning adolescents' whereabouts may more strongly be associated with emotional autonomy than that concerning the use of illegal drugs. Future studies need to conceptualize secrecy in adolescence more specifically to pinpoint the mechanism underlying the process of secrecy that is most relevant to the development of emotional autonomy. Additionally, these studies need to distinguish between features that characterize all secrets (e.g., separation, self-determination) and different secret contents to determine which aspect of secrecy contributes most to emotional autonomy and psychosocial well-being in adolescence.

Finally, our measurement of secrecy in adolescent-parent relationships does not allow to draw any conclusions as to how and why adolescents strategically use secrecy in everyday life. Also, the cross-sectional nature of this study examined the plausibility of hypothesized relations between secrecy and adolescent well-being and development, but it did not test causality. Prospective, longitudinal studies need to examine the relations and interrelations between secrecy, psychosocial development, and physical and psychological well-being in adolescence.

In light of these shortcomings, this study has to be considered as a first step in the investigation of secrecy in adolescence. Despite its shortcomings, it provides the first evidence that secrecy represents a powerful factor in adolescent well-being and emotional autonomy. Therefore, it is high time for researchers to make a place for secrecy in research on adolescence.

REFERENCES

- Aiken, L. S., and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Sage, Newbury Park, CA.

- Allen, J. P., Hauser, S. T., Bell, K. L., and O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent-family interactions as predictors of adolescent ego development and self-esteem. *Child Dev.* 65: 179-194.
- Allen, J. P., and Land, D. (1999). Attachment in adolescence. In Cassidy, J., and Shaver, P. R. (eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications*. Guilford Press, New York, pp. 319-335.
- Berndt, T. J. (1996). Transitions in friendship and friends' influence. In Graber, J. A., Brooks-Gunn, J., and Peterson, A. C. (eds.), *Transitions Through Adolescence: Interpersonal Domains and Context*. Erlbaum, Mahwah, NJ, pp. 57-84.
- Blos, P. (1967). The second individuation process of adolescence. *Psychoanal. Study Child* 22: 162-168.
- Blos, P. (1979). *The Adolescent Passage*. International Universities Press, New York.
- Bok, S. (1989). *Secrets: On the Ethics of Concealment and Revelation*. Vintage Books, New York.
- Brown-Smith, N. (1998). Family secrets. *J. Fam. Issues* 19: 20-42.
- Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Dev.* 61: 1101-1111.
- Buhrmester, D., and Prager, K. (1995). Patterns and functions of self-disclosure during childhood and adolescence. In Rotenberg, K. (ed.), *Disclosure Processes in Children and Adolescents*. Cambridge University Press, New York, pp. 10-56.
- Chandler, M., Fritz, A. S., and Hala, S. (1989). Small-scale deceit: Deception as a marker of two-, three-, and four-year-olds' early theories of mind. *Child Dev.* 60: 1263-1277.
- Chelune, G. J., Waring, E. M., Vosk, B. N., Sultan, F. E., and Odgen, J. K. (1984). Self-disclosure and its relationship to marital intimacy. *J. Clin. Psychol.* 40: 216-219.
- Coie, J. D. (1990). Toward a theory of peer rejection. In Asher, S. R., and Coie, J. D. (eds.), *Peer Rejection in Childhood*. Cambridge University Press, Cambridge, England, pp. 365-401.
- Deci, E. L., and Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In Dienstbier, R. A. (ed.), *Nebraska Symposium on Motivation, 1990: Perspectives on Motivation. Current Theory and Research in Motivation* (Vol. 38). University of Nebraska Press, Lincoln, NE, pp. 237-288.
- Engels, R. C. M. E., Knibbe, R. A., and Drop, M. J. (1999). Visiting public drinking places: An explorative study into the functions of pub-going for late adolescents. *Subst. Use Misuse* 34: 1061-1080.
- Erikson, E. H. (1959). Identity and the life cycle: Selected papers. *Psychol. Issues* 1: 1-171 (Monograph No. 1).
- Fincham, F. D., and Bradbury, T. (1987). The assessment of marital quality: A reevaluation. *J. Marr. Fam.* 49: 797-809.
- Finkenauer, C. (1998). *Secrets: Types, Determinants, Functions, and Consequences*. Unpublished doctoral dissertation, University of Louvain at Louvain-la-Neuve, Louvain-la-Neuve, Belgium.
- Finkenauer, C., Engels, R. C. M. E., Meeus, W., and Oosterwegel, A. (2002). Self and identity in early adolescence: The pains and gains of growing up. In Brinthaup, T. M., and Lipka, R. P. (eds.), *Understanding Early Adolescent Self and Identity: Applications and Interventions*. Albany, NY: State University of New York Press.
- Finkenauer, C., and Meeus, W. (1999). *Communication Patterns in Adolescence*. Unpublished manuscript, Utrecht University, Utrecht, The Netherlands.
- Finkenauer, C., and Rimé, B. (1998a). Socially shared emotional experiences vs. emotional experiences kept secret: Differential characteristics and consequences. *J. Soc. Clin. Psychol.* 17: 295-318.
- Finkenauer, C., and Rimé, B. (1998b). Keeping emotional memories secret: Health and well-being when emotions are not shared. *J. Health Psychol.* 3: 47-58.
- Flitner, E. H., and Valtin, R. (1985). "Das sage ich nicht weiter": Zur Entwicklung des Geheimnisbegriffs bei Schulkindern. ["I won't tell": About the development of the concept of secrecy among schoolchildren.] *Zeitschrift für Pädagogik* 31: 701-716.
- Frank, S. J., Pirsch, L. A., and Wright, V. C. (1990). Late adolescents' perceptions of their relationships with their parents: Relationships among deidealization, autonomy, relatedness, and insecurity and implications for adolescents adjustment and ego identity status. *J. Youth Adolesc.* 19: 571-588.
- Fuhrman, T., and Holmbeck, G. N. (1995). A contextual-moderator analysis of emotional autonomy and adjustment in adolescence. *Child Dev.* 66: 793-811.
- Goossens, L. (1997). Emotionele autonomie, relationele steun en de perceptie van het gezinsfunctioneren door adolescenten. [Emotional autonomy, relational support, and the perception of family-functioning among adolescents.] In Gerris, J. R. M. (ed.), *Jongerenproblematiek: Hulpverlening en Gezinsonderzoek*. van Gorcum, Assen, The Netherlands, pp. 92-103.
- Grotevant, H. D., and Cooper, C. R. (1986). Individuation in family relationships: A perspective on individual differences in the development of identity and role-taking skill in adolescence. *Hum. Dev.* 29: 82-100.
- Harber, K. D., and Pennebaker, J. W. (1992). Overcoming traumatic memories. In Christianson, S. A. (ed.), *The Handbook of Emotion and Memory: Research and Theory*. Erlbaum, Hillsdale, NJ, pp. 359-387.
- Harter, S. (1998). The development of self-representations. In Damon, W. (Series ed.), and Eisenberg, N. (Vol. ed.), *Handbook of Child Psychology: Vol. 3. Social, Emotional, and Personality Development*. Wiley, Chichester, pp. 553-617.
- Harter, S. (1999). Symbolic interactionism revisited: Potential liabilities for the self constructed in the crucible of interpersonal relationships. *Merrill Palmer Q.* 45: 677-703.
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Dev.* 67: 1-13.
- Ichiyama, M. A., Colbert, D., Laramore, H., Heim, M., Carone, K., and Schmidt, J. (1993). Self-concealment and correlates of adjustment in college students. *J. Coll. Stud. Psychother.* 7: 55-68.
- Jung, C. G. (1961). *Freud and Psychoanalysis* (translated by R. F. C. Hull). Routledge & Kegan Paul, London, GB.
- Kandel, D., and Davies, M. (1982). Epidemiology of depressive mood in adolescents. *Arch. Gen. Psychiatry* 39: 1205-1212.
- Kaplan, E. (1987). Development of the sense of separateness and autonomy during middle childhood and adolescence. In Bloom-Feshbach, J., and Bloom-Feshbach, S. (eds.), *The Psychology of Separation and Loss*. Jossey-Bass, San Francisco, CA, pp. 136-164.
- Kelly, A. E. (1998). Clients' secret keeping in outpatient therapy. *J. Counsel. Psychol.* 45: 50-57.
- Kelly, A. E., and McKillop, K. J. (1996). The consequences of revealing personal secrets. *Psychol. Bull.* 120: 450-465.
- Lane, D. J., and Wegner, D. M. (1995). The cognitive consequences of secrecy. *J. Pers. Soc. Psychol.* 69: 237-253.
- Larson, D. G., and Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *J. Soc. Clin. Psychol.* 9: 439-455.
- Larson, R. W., Richards, M. H., Moneta, G., Holmbeck, G., and Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Dev. Psychol.* 32: 744-754.
- Last, U., and Aharoni-Etzioni, A. (1995). Secrets and reasons for secrecy among school-aged children: Developmental trends and gender differences. *J. Genet. Psychol.* 156: 191-203.
- Mahler, M. S., Pine, F., and Bergman, A. (1975). *The Psychological Birth of the Human Infant*. Basic Books, New York.
- Margolis, G. J. (1966). Secrecy and identity. *Int. J. Psychoanal.* 47: 517-522.
- Meares, R., and Orlay, W. (1988). On self boundary: A study of the development of the concept of secrecy. *Br. J. Med. Psychol.* 61: 305-316.
- Miller, L. C., Berg, J. H., and Archer, R. L. (1983). Openers: Individuals who elicit intimate self-disclosure. *J. Pers. Soc. Psychol.* 44: 1234-1244.

- Pennebaker, J. W. (1989). Confession, inhibition, and disease. In Berkowitz, L. (ed.) *Advances in Experimental Social Psychology* (Vol. 22). Academic Press, New York, pp. 211–244.
- Pennebaker, J. W., and Beall, S. (1986). Confronting a traumatic event: Toward an understanding of inhibition and disease. *J. Abnorm. Psychol.* 95: 274–281.
- Pennebaker, J. W., and Susman, J. R. (1988). Disclosure of traumas and psychosomatic processes. *Soc. Sci. Med.* 26: 327–332.
- Peskin, J. (1992). Ruse and representations: On children's ability to conceal information. *Dev. Psychol.* 28: 84–89.
- Petronio, S. (1991). Communication boundary management: A theoretical model of managing disclosure of private information between marital couples. *Commun. Theor.* 1: 311–335.
- Pipe, M. E., and Goodman, G. S. (1991). Elements of secrecy: Implications for children's testimony. *Behav. Sci. Law* 9: 33–41.
- Pipe, M. E., and Wilson, J. C. (1994). Cues and secrets: Influences on children's event reports. *Dev. Psychol.* 30: 515–525.
- Renshaw, P. D., and Brown, P. J. (1993). Loneliness in middle childhood: Concurrent and longitudinal predictors. *Child Dev.* 64: 1271–1284.
- Russell, D., Peplau, L. A., and Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *J. Pers. Soc. Psychol.* 39: 472–480.
- Ryan, R. M., Deci, E. L., and Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In Cicchetti, D., and Cohen, D. J. (eds.), *Developmental Psychopathology, Vol. 1: Theory and Methods*. Wiley, New York, pp. 618–655.
- Ryan, R. M., and Lynch, J. H. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Dev.* 60: 340–356.
- Sikkel, D. (1980). Een verkorting van de VOEG-schaal. [An abbreviated version of the VOEG-scale]. *Sociaal Cultureel Kwartaalbericht* 2: 22–26.
- Simmel, G. (1950). The secret and the secret society. In Wolff, K. W. (ed. and trans.), *The Sociology of George Simmel*. Free Press, New York.
- Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In Feldman, S., and Elliott, G. (eds.), *At the Threshold: The Developing Adolescent*. Harvard University Press, Cambridge, MA, pp. 255–276.
- Steinberg, L., and Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Dev.* 57: 841–851.
- van Manen, M., and Levering, B. (1996). *Childhood's Secrets: Intimacy, Privacy, and the Self Reconsidered*. Teachers College Press, New York.
- Vangelisti, A. L. (1994). Family secrets: Forms, functions, and correlates. *J. Soc. Pers. Relation.* 11: 113–135.
- Vangelisti, A. L., and Caughlin, J. P. (1997). Revealing family secrets: The influence of topic, function, and relationships. *J. Soc. Pers. Relation.* 14: 679–705.
- Watson, A. J., and Valtin, R. (1993). "It's not telling your mum, only your friend": Children's understanding of secrets. In Dunkin, M. J. (ed.), *St. George Papers in Education* (Vol. 2). The School of Teacher Education, Oatley, NSW, Australia, pp. 1–53.
- Youniss, J., and Smollar, J. (1985). *Adolescent Relations With Mothers, Fathers, and Friends*. University of Chicago Press, London.