

**Autobiographisches Erzählen über die Adoleszenz und bezogen auf unsichere und sichere  
Bindungsrepräsentationen im Adult Attachment Interview**

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**ABSTRACT**

In den vorgelegten drei Studien wurden Lebenserzählungen zum einen über die Adoleszenzentwicklung und zum anderen im Adult Attachment Interview textanalytisch, über semantisch-syntaktische Kodes, untersucht. Die ersten beiden Studien untersuchen die Variablen *globale Kohärenz*, bzw. *narrative Verantwortungsübernahme* in Lebenserzählungen von 102 Kindern, Jugendlichen und jungen Erwachsenen (8, 12, 16 und 20 Jahre). Hypothesen sind, dass beide Variablen in der Adoleszenz aufgrund der Identitätsentwicklung ansteigen. Die Haupthypothesen zeigen sich als bestätigt. In der dritten Studie wird die narrative Verantwortungsübernahme anhand einer Sekundäranalyse von Adult Attachment Interviews von 28 Frauen untersucht. Die Hypothese lautet, dass sichere Bindungsrepräsentationen mehr narrative Verantwortungsübernahme zeigen als unsichere Bindungsrepräsentationen und dass unsichere Bindungsrepräsentationen mehr narrative Abstufungen von Verantwortung zeigen als sichere Bindungsrepräsentationen. Während die erste Hypothese keine signifikanten Ergebnisse zeigt, stellt sich die zweite Hypothese als bestätigt dar. Die Ergebnisse werden in den ersten beiden Studien in Bezug auf die Identitätsentwicklung und in der dritten Studie im Zusammenhang mit einer *Grammatik von unsicherer Bindung* diskutiert.

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## 1. Einleitung

Das autobiographische Erzählen ist der unmittelbare Untersuchungsgegenstand in der Psychoanalyse von Erwachsenen. Das Erzählen ist mit zunehmender psychischer Remission des Patienten nicht nur Mittel zum, sondern auch Indikator für den Erfolg einer psychotherapeutischen Behandlung (vgl. Bucci, 1997; Mergenthaler & Bucci, 1999) und damit seelischer Gesundheit (vgl. z.B. Kernberg, 1984). Wird das autobiographische Erzählen des Patienten zum strukturierten, reflektierten und lebendigem Mitteilen, setzen bei diesem problemorientierte Lösungsprozesse ein, die er selbständig nutzen kann (vgl. z.B. Schafer, 1995). Ein Beispiel für die diagnostische Relevanz des autobiographischen Erzählens ist das *Adult Attachment Interview* (AAI; George, Kaplan & Main, 1996). Dessen sprachanalytische Auswertung (Main & Goldwyn, 1994) von Kindheitsschilderungen und –erinnerungen misst reliabel die Bindungsqualität des erwachsenen Erzählers (vgl. z.B. Hofmann, 2001). Die *sichere Bindungsrepräsentation* des erwachsenen Erzählers ist durch eine kohärente Erzählung gekennzeichnet, die sich ausbalanciert in Länge, Stil und Inhalt zeigt, und zumeist die erste Person „Ich“ verwendet (vgl. Ziegenhain, 2001).

Die in übergreifenden Konzepten behandelte Kohärenz einer autobiographischen Erzählung ist ein Indikator für psychische Gesundheit (vgl. z.B. Androutopoulou, et al., 2004; Bergman & Fahey, 2005) und sich entwickelnde Identität (vgl. Habermas & Bluck, 2001; Habermas & de Silveira, 2008). Im engen Zusammenhang mit der Identitätsentwicklung ist die sprachliche Verantwortungsübernahme für die eigene Lebensgeschichte zu sehen. Die Fähigkeit einer narrativen Annahme oder Zurückweisung von Verantwortung für Handlungen und Ereignisse in der eigenen Autobiographie muss sich erst entwickeln. Der Beginn dieser narrativen Fähigkeit, ausgewiesen über linguistische Merkmale, ist eng mit der Identitätsentwicklung in der Adoleszenz verknüpft (vgl. de Silveira & Habermas, 2011).

Die zur kumulativen Promotion vorgelegten Artikel beinhalten linguistische Untersuchungen zur Entwicklung autobiographischen Erzählens und zur differentiellen Unterscheidung von narrativen Erzählungen. Die Studien sind somit Grundlagen für weitere Forschungen dazu, sich als erzählender Protagonist in seiner narrativen Identität authentisch

darstellen zu können. Sie geben damit auch Hinweise auf klinische Prozesse der Identitätsbildung, bzw. auf diagnostische Mittel. Dies ist auch von Nutzen für die klinische Praxis. Es kann zum Beispiel in Betracht gezogen werden, dass das AAI hauptsächlich ein Forschungsinstrument ist und in der klinischen Praxis nur bedingt angewendet werden kann (vgl. Daniel, 2009). Hier sind ergänzende Untersuchungen nötig, welche die Erkenntnisse aus dem AAI nutzen (wie z.B. die Kohärenz einer narrativen Erzählung als Zeichen einer stabilen Persönlichkeit) und sprachliche Parameter präzisieren und systematisieren (vgl. ebd.). Diese könnten dann als narrative Marker für den Fortgang des psychotherapeutischen Prozesses nutzbar gemacht werden. Standardisierte linguistische Marker in autobiographischen Erzählungen, wie sie sich in der Arbeit von de Silveira, Habermas und Gloger-Tippelt (2010) zeigen, sind Schritte in diese Richtung.

Die vorgelegte Zusammenfassung der kumulativen Promotion geht zunächst auf die Beteiligung der Verfasserin an der Publikation als Zweitautorin ein. Im Anschluss werden die zur publikationsbasierten Promotion vorgelegten Artikel kurz dargelegt, um ihren inhaltlichen Zusammenhang aufzuzeigen. Daraufhin erfolgt eine Bewertung und Einordnung der Arbeiten bezogen auf ihre Relevanz für das Wissenschaftsgebiet. Die folgenden drei Artikel sind Bestandteil dieses publikationsbasierten Promotionsverfahrens:

1. Silveira, C., de, & Habermas, T. (2011). Narrative means to manage responsibility in life narratives across adolescence. *Journal of Genetic Psychology*, 1, 1-20.
2. Silveira, C., de, Habermas, T., & Gloger-Tippelt, G. (2010). Narrative grading of secure and insecure mothers in the Adult Attachment Interview. *Manuscript submitted for publication*.
3. Habermas, T., & Silveira, C., de (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology*, 44, 707–721.

## **2. Beteiligung an der Publikation als Zweitautorin**

Die Verfasserin war von 2002 bis 2004 Projektleiterin im Drittmittelprojekt der DFG „Entwicklung der Lebensgeschichte“, welches die Datengrundlage für den Artikel von Habermas und de Silveira (2008) bildete. Aufgaben und Zuständigkeiten der Projektleiterin waren die Organisation der Interviewdurchführung, d.h. Koordinationen mit Schulämtern, Schulleitern, Lehrern, Eltern und Schülern. Dies beinhaltete zudem die Akquise der Teilnehmer, die Organisation der Elternabende, der Räumlichkeiten zur Interviewdurchführung und der Interviewtermine; das Training der Interviewer, deren Supervision und (zu gleichen Teilen wie die Hilfskräfte) die Interviewdurchführung. In wöchentlichen Projektsitzungen mit Prof. Dr. Tilmann Habermas wurde der Projektverlauf evaluiert und die anstehenden Aufgaben besprochen. Des Weiteren wurden von der Verfasserin Vorträge zu den Studieninhalten und –ergebnissen gehalten (*The emergence of the life story in adolescence. 5<sup>th</sup> Conference of the Society for Applied Research in Memory and Cognition*, Januar, 2005, Wellington, New Zealand; Die Entwicklung der Fähigkeit, Erinnerungen zu einer Lebensgeschichte zusammenzufügen. *Fachtagung für Entwicklungspsychologie (EPSY)*, September, 2003, Mainz; The development of the ability to combine autobiographical memories into a coherent life story. *Society for Applied Research in Memory and Cognition*, Juli, 2003, Aberdeen/Schottland) und Abschlusspräsentationen für die an der Studie beteiligten Schulen, Eltern und Teilnehmer durchgeführt. Nach Beendigung des Projektes schrieb die Verfasserin den theoretischen Teil des vorgelegten Artikels, der dann vom Erstautor überarbeitet wurde. Während des Reviewprozesses leistete die Verfasserin kontinuierliche Korrekturlesearbeit.

## **3. Beschreibung der vorgelegten Arbeiten und des inhaltlichen Zusammenhangs**

Die vorgelegten Artikel verbindet die empirische Forschung zu autobiographischen Erzählungen anhand textlinguistischer Parameter, wie sie sich auf der Sprachoberfläche zeigen. Durch die reliable Anwendung von textlinguistischen Manualen auf transkribierte Erzählungen können Sprachproduktionen einer quantitativen Untersuchung auf Textebene zugänglich gemacht werden.

Die Fragestellungen der durchgeführten Untersuchungen beziehen sich auf entwicklungspsychologische Aspekte von Sprache auf der Textoberfläche (vgl. Habermas & de Silveira, 2008; de Silveira & Habermas, 2011) und auf Persönlichkeitsaspekte (vgl. de Silveira, Habermas, & Gloger-Tippelt, 2010). Für die ersten beiden entwicklungspsychologischen Studien wurden 102 Lebensgeschichten von je mindestens 24 8-, 12-, 16- und 20-Jährigen (ausbalanciert auf beide Geschlechter) erhoben. Deren wortwörtliche Lebensgeschichten wurden während des durchgeführten semi-strukturierten Interviews auf Tonband aufgenommen, transkribiert und reliabel in Propositionen eingeteilt (vgl. Habermas & de Silveira, 2008). Die Einteilung in Propositionen ermöglichte, anhand von Kodiermanualen, die reliable Kodierung der einzelnen Satzaussagen-Segmente (vgl. ebd.). Die Häufigkeiten der Kodierungen wurden an der Wortzahl der Probanden relativiert, so dass die Kodierungen für jede Altersgruppe relativ zur Wortlänge berechnet werden konnten. Dies ermöglichte die quantitative Auswertung der textlinguistischen Kodes im Vergleich über die Altersgruppen. In allen drei Untersuchungen wurde nach diesem Verfahren vorgegangen.

Das Manual der Untersuchung von Habermas und de Silveira (2008), angewendet auf die 102 Lebensgeschichten von Kindern, Jugendlichen und jungen Erwachsenen, behandelt Aspekte textlinguistischer *globaler Kohärenz*, welche in die drei Hauptbereiche *zeitliche*, *kausale* und *thematische Kohärenz* untergliedert sind. Unter zeitliche Kohärenz fallen Aussagen, die sich auf einen zeitlichen Punkt des Lebensereignisses (Nennung von Lebensphase, Datum, zeitlicher Distanz zur Vergangenheit) beziehen; unter kausale Kohärenz fallen Erläuterungen des Erzählers zu den biographischen Ursachen und Gründen seiner Handlungen sowie zu Veränderungen seiner Persönlichkeit, aber auch zu Lebensmaximen und generalisierenden Statements. Unter thematische Kohärenz fallen Aussagen, die sich auf thematische Zusammenhänge und Vergleiche der eigenen Lebenserfahrung beziehen. Diese zeigen sich besonders durch Exemplifizierungen, d.h. generelle Aussagen werden durch Lebensereignisse belegt. Dies erfordert die interpretative Kompetenz des Erzählers. Die aufgeführten Aspekte beinhalten eine Kohärenz der Lebenserzählung, da sie dem Zuhörer verdeutlichen, wie der Erzähler zu dem geworden ist, was er ist. Aufgrund der oben genannten Kohärenzaspekte kann der Erzähler eine zeitliche Strukturierung aufzeigen, kausale Zusammenhänge herstellen - warum er gehandelt hat oder sich verändert hat - und thematische Zusammenhänge der



Lebensgeschichte exemplarisch verdeutlichen, aber auch abstrahierend darstellen. Unserer Annahme nach sollte eine kohärente Lebenserzählung, die alle diese Aspekte beinhaltet, erst mit der Adoleszenz- und Identitätsentwicklung zum Tragen kommen. Unsere Haupthypothese lautet entsprechend, dass sich die angeführten Kohärenzformen über die Entwicklung mit dem Alter ansteigend darstellen.

Die Hauptergebnisse der Untersuchung zeigen, dass die globale zeitliche, kausale und thematische Kohärenz mit dem Alter kontinuierlich in Lebenserzählungen ansteigt. Sie geben einen bestätigenden Hinweis darauf, dass die globale Kohärenz einer Lebensgeschichtenerzählung erst mit der Adoleszenz- und damit Identitätsentwicklung zum Ausdruck kommt.

In den zwei weiteren vorgelegten Studien (vgl. de Silveira & Habermas, 2011; de Silveira, Habermas, & Gloger-Tippelt, 2010) wurde das textlinguistische Manual *Narrative Handlungsspielräume in Autobiographischen Erzählungen* verwendet. Dieses wurde von der Verfasserin entwickelt, um unterscheidbar zu machen, inwieweit ein Erzähler zeigt, dass er ein Gewahrsein von Verantwortung für seine persönliche Lebensgeschichte hat. Das Manual wurde für die Studie von de Silveira und Habermas (2011) erstellt und auf die 102 Lebenserzählungen angewendet. In dieser Studie kamen alle im Manual entwickelten Codes zur Anwendung. Neben den beiden Hauptvariablen, der *narrativen Abstufung von Verantwortung (narrative grading of responsibility)* und der *narrativen Agentizität (narrative agency)*, wurden die beiden weiteren Variablen *narrative Turning Points* und *narrative Serendipität (narrative serendipity)* kodiert. Unsere Fragestellung war, wie sich der narrative Ausdruck von Verantwortung in der Lebensgeschichtenerzählung von der Kindheit bis zum frühen Erwachsenenalter verändert. Unsere Erwartung war, dass sich über die Identitätsentwicklung in der Adoleszenz, die mit einer kognitiven Entwicklung und veränderten sozialen Anforderungen einhergeht, eine Erkenntnis der Verantwortungshaltung für das eigene Leben durchsetzt und dass sich dies in der Sprache des Erzählers niederschlägt. Ein Gewährwerden der Verantwortlichkeit für das eigene Leben sollte sich unserer Erwartung nach durch den Anstieg der vier Variablen über das Lebensalter zeigen. Die Variablen narrative Abstufung von Verantwortung und narrative Serendipität spiegeln eine Erkenntnis von Verantwortung über eine Verminderung von Agentizität wieder. In ihnen kommt zum einen eine distanzierte Sprache (Variable narrative Abstufung von

Verantwortung) und zum anderen eine externale Attribuierung auf Glück und Zufall (Variable narrative Serendipität) zum Ausdruck. In dem der Erzähler über narrative Strategien seine Verantwortung reduziert, weist er daraufhin, dass er ein Gewähr sein einer moralischen Verantwortung für die eigene Lebensgeschichte hat. Möchte er Verantwortung nicht übernehmen, verwendet er erzählerische Strategien, die Verantwortung graduell reduzieren. D.h., durch das Gewähr werden, dass Verantwortlichkeit relativiert und im jeweiligen Kontext gesehen werden muss, benötigt er nicht nur Strategien, um Verantwortung im Handeln und Denken eindeutig auszudrücken (narrative Agentizität), sondern auch um diese zurückzuweisen (narrative Abstufung von Verantwortung) oder aber offen zu lassen. Letzteres kann über die Strategie der narrativen Serendipität ausgedrückt werden.

Narrative Turning Points (saliente Wendepunkte im Leben) spiegeln unserer Annahme nach ebenso eine Bewusstwerdung von Verantwortung für die eigene Lebensgeschichte wider, da diese darauf verweisen, dass der Erzähler rückblickend Veränderungen als wichtig für sein Leben und seine Lebenseinstellung erachtet. Indem er darauf hinweist, dass diese ausschlaggebend für seine Persönlichkeits- und Identitätsentwicklung waren, reflektiert er über Gründe für Handlungen oder Einstellungen seiner Person und übernimmt somit moralische Verantwortung. Die Variable narrative Agentizität, mit welcher der Erzähler sich direkt auf sich bezieht und seinen konkreten Beitrag zur Lebensgeschichte beschreibt, legt einen direkten, sprachlichen Bezug zur konkreten Übernahme von verantwortlichem Handeln und Denken in der Lebenserzählung nahe.

Die Ergebnisse bestätigen unsere Haupterwartungen bezogen auf die Variablen narrative Abstufung von Verantwortung, narrative Serendipität und narrative Turning Points. Alle drei Variablen steigen mit der Adoleszenzentwicklung an. Die Variable narrative Agentizität weist entgegen unserer Erwartung keinen bedeutsamen Unterschied zwischen den Altersgruppen auf. Die Ergebnisse werden im Artikel kritisch diskutiert und mit sich anschließenden Forschungsaufgaben in Zusammenhang gebracht.

In der dritten Untersuchung (vgl. de Silveira, Habermas, & Gloger-Tippelt, 2010) haben wir zwei Variablen des Manuals Narrative Handlungsspielräume in Autobiographischen Erzählungen im Rahmen einer Sekundäranalyse auf 28 Adult Attachment Interviews (vgl. Gomme & Gloger-Tippelt, 1999) von jungen Frauen angewendet. Diese zwei Variablen,

narrative Abstufung von Verantwortung und narrative Agentizität, sollten zwischen den Gruppen „sicher“ und „unsicher“ einen bedeutsamen Unterschied aufzeigen. Die Variablen sollten die qualitativ textsprachanalytische Auswertung im AAI quantitativ auf semantisch-syntaktischer Ebene bestätigen und um eine „*Grammatik der Bindung*“ erweitern. Unsere Fragestellung lautete demnach, „gibt es eine Grammatik von Bindung“? Die Hauptergebnisse zeigen einen Unterschied für die unsicheren Gruppen und der Variable narrative Abstufung von Verantwortung. Für narrative Agentizität zeigt sich kein Gruppenunterschied. Die Ergebnisse bestätigen somit eine Grammatik von Bindung für die Teilnehmer mit unsicheren Bindungsrepräsentationen im AAI. Die Diskussion der Ergebnisse setzt sich v.a. mit der Beschränkung auf die zu einer Gruppe zusammengefassten unsicheren Bindungsrepräsentationen auseinander und damit, dass die Ergebnisse sich insbesondere auf die Bestätigung einer „Grammatik“ der unsicher-distanzierenden Gruppe beziehen.

#### **4. Bewertung und Einordnung der vorgelegten Publikationen**

Alle drei Publikationen sind in anerkannten internationalen Fachzeitschriften mit Blind- und Doppel-Reviewverfahren veröffentlicht, bzw. eingereicht. Eine Veröffentlichung in der renommierten internationalen entwicklungspsychologischen Zeitschrift *Developmental Psychology* (USA) spricht für sich. Der Impact Factor liegt bei 3.42. Der hier veröffentlichte Artikel von Habermas und de Silveira (2008) erweitert die theoretische Ausgangsbasis (vgl. McAdams, 1985) sowie die Studie von Habermas und Bluck (2000) um eine umfangreiche Untersuchung zur Entwicklung der Lebensgeschichte über die Adoleszenz. Die vorliegende Untersuchung kann die Hypothese von McAdams (ebd.) bestätigen, dass sich die Fähigkeit zur kohärenten Erzählung einer Lebensgeschichte erst ab der Adoleszenz entwickelt. Während zuvor nur einzelne Episoden getestet wurden (z.B. McAdams et al., 2006), untersucht die Studie von Habermas und de Silveira zum ersten Mal die spezifische Form einer kohärenten Lebensgeschichtenerzählung über die Adoleszenz.

Die Zeitschrift *Journal of Genetic Psychology* (USA) veröffentlicht Artikel zu Forschungen und Theorien zur Entwicklungspsychologie und klinischer Psychologie. Der Schwerpunkt liegt bei empirischen Untersuchungen. Der Impact Factor liegt bei 0.84. Die

Reviewer des *Journal of Genetic Psychology* betonen in ihren Gutachten den wissenschaftlichen Wert des vorgelegten, zur Publikation angenommenen Artikels für die Forschung und der bestehenden Literatur auf diesem Fachgebiet.

Die Zeitschrift *Text & Talk* (UK) ist ein internationales Forum für interdisziplinäre linguistische Forschungen bezogen auf Methoden und Theorien. Der Impact Factor liegt bei 0.57. Der dort eingereichte Artikel ist zum einen eine quantitative Validitätsstudie zur bestehenden Auswertung des Adult Attachment Interviews. Zum anderen kann er eine *Grammatik von Bindung* für die unsicher-distanzierende Bindungsrepräsentation aufstellen, bzw. präzisieren. Durch die Identifizierung und Systematisierung linguistischer Marker kann er den bestehenden Forschungsstand um sprachliche Indikatoren von Bindungsunsicherheit ergänzen und zu weiteren Untersuchungen anregen.

## 5. Zusammenfassung

An der Publikation als Zweitautorin (vgl. Habermas & de Silveira, 2008) war die Antragstellerin dieses kumulativen Promotionsverfahrens als Projektleiterin im Rahmen der Organisation der Datenerhebung und der Befragung der Teilnehmer maßgeblich beteiligt. Zudem hielt sie u. a. internationale Vorträge zu den Projektdaten und Ergebnissen. Weiterhin schrieb sie die erste Fassung des theoretischen Teils des Artikels und war mit dessen Korrekturlesung kontinuierlich betraut.

Alle vorgelegten Publikationen weisen einen inhaltlichen und methodischen Zusammenhang auf. Dieser zeigt sich in der textanalytischen Betrachtung von wortwörtlichen, autobiographischen Erzählungen und über die reliable Auswertungsvorgehensweise anhand von textanalytischen Manualen. Letztere beinhaltet die Interraterschulung und -übereinstimmung in der Anwendung spezifisch operationalisierter Codes auf Propositionen, die reliable „Blindkodierung“ und die quantitative Berechnung der relativen Häufigkeiten der Codes.

In zwei der Studien wird derselbe Datensatz verwendet, wenn auch verschiedene Auswertungsmanuale hinzugezogen werden. In diesen zwei Untersuchungen werden adoleszenzspezifische Fragestellungen behandelt, die auf die Identitätsentwicklung verweisen. Die Studie von Habermas und de Silveira (2008) untersucht die *globale Kohärenz* anhand semantisch-syntaktischer Codes; die Untersuchung von de Silveira und Habermas (2011)

untersucht die moralische narrative Verantwortungsübernahme für die eigene Lebensgeschichte über agentische und agentizitätsvermindernde linguistische Kodes. In der dritten durchgeführten Studie besteht ebenfalls die Fragestellung einer narrativen Verantwortungsübernahme jedoch unter differentiellen Gesichtspunkten bezogen auf sichere und unsichere Bindungsrepräsentationen (vgl. de Silveira, Habermas & Gloger-Tippelt, 2010).

## 6. Literaturverzeichnis

- Androutsopoulou, A., Thanapoulou, K., Economou, E., & Tsabika, B. (2004). Forming criteria for assessing the coherence of clients' life stories: a narrative study. *Journal of Family Therapy*, 26, 384-406.
- Bergman, A., & Fahey, M. (2005). Observations and Representations of the Earliest Relationship: A View from Separation-Individuation and Attachment. In S. Akhtar & H. Blum (Eds.), *The Language of Emotions. Development, Psychopathology, and Technique* (pp. 139-150). Lanham, England: Jason Aronson.
- Bucci, W. (1997). *Psychoanalysis and cognitive science*. New York: Guilford.
- Daniel, S. I.F. (2009). The developmental roots of narrative expression in therapy: Contributions from attachment theory and research. *Psychotherapy Research, Practice, Training*, 46, 301-316.
- George, C., Kaplan, N., & Main, M. (1996). *Adult Attachment Interview*. Unpublished manuscript (3rd ed.), University of California, Berkeley.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126, 248–269.
- Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology*, 44, 707–721.
- Hofmann, V. (2001). Psychometrische Qualitäten des Adult Attachment Interviews – Forschungsstand. In G. Gloger-Tippelt (Hrsg.), *Bindung im Erwachsenenalter: Ein Handbuch für Forschung und Praxis* (pp.121-153). Bern: Huber.

- Kernberg, O. F. (1984). *Schwere Persönlichkeitsstörungen. Theorie, Diagnose, Behandlungsstrategien*. Stuttgart: Klett-Cotta.
- Main, M., & Goldwyn, R. (1994). *Adult attachment scoring and classification system*. Unpublished manuscript, University of California, Berkely.
- McAdams, D.P. (1985). *Power and Intimacy*. New York: Guilford.
- McAdams, D.P., Bauer, J.J., Sakaeda, A.R., Anyidoho, N.A., Machado, M.A., Magrino-Failla, et al. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality*, 74, 1371-1400.
- Mergenthaler, E., & Bucci, W. (1999). Linking verbal and non-verbal representations: Computer analysis of referential activity. *British Journal of Medical Psychology*, 72, 339-354.
- Schafer, R. (1995). *Erzähltes Leben. Narration und Dialog in der Psychoanalyse*. München: Pfeiffer.
- Silveira, C. de, & Habermas, T. (2011). Narrative means to manage responsibility in life narratives across adolescence. *Journal of Genetic Psychology*, 1, 1-20.
- Silveira, C., de, Habermas, T., & Gloger-Tippelt, G. (2010). Narrative grading of secure and insecure mothers in the Adult Attachment Interview. *Manuscript submitted for publication*.
- Ziegenhain, U. (2001). Sichere mentale Bindungsmodelle. In G. Gloger-Tippelt (Hrsg.), *Bindung im Erwachsenenalter: Ein Handbuch für Forschung und Praxis* (pp. 154-173). Bern: Huber.

# The Development of Global Coherence in Life Narratives Across Adolescence: Temporal, Causal, and Thematic Aspects

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Extending the study of autobiographical narratives to entire life narratives, we tested the emergence of globally coherent life narratives in adolescence, as hypothesized by McAdams (1985). Participants were 102 children and young adults (ages 8, 12, 16, and 20 years) who narrated their lives twice. Between narrations, half of each age group participated in tasks designed to train autobiographical reasoning; the other half participated in control tasks. Coherence was measured by the relative frequency of local temporal, causal, and thematic linguistic indicators identified qualitatively at the level of propositions, as well as by quantitative global rating scales measuring the impressions of the listeners. Coherence increased across the age span. Overall, repeated narrating and training did not increase coherence. Crystallized and fluid intelligence, number of negative life events, and frequency of biographical practices and confiding in others did not contribute substantially to the prediction of coherence beyond age. Results are interpreted in the context of adolescent identity development.

*Keywords:* life narratives, adolescence, autobiographical reasoning, life story, autobiographical memory

Based on early memory abilities such as deferred imitation and recognition (Bauer, 2006), autobiographical remembering and a corresponding autobiographical self emerge with the ability to verbally refer to past episodes as experienced by the self. By the end of the preschool years, children organize past events through the acquisition of the story structure (Nelson & Fivush, 2004). The life story is a coherent organization of multiple single narratives that are interweaved within the context of the personal development of the individual. In the study presented here, we set out to demonstrate that the development of the organization of narrative remembering continues beyond childhood. We present the first attempt to systematically test McAdams's (1985) hypothesis that the life story develops first in adolescence. We begin by delineating the theoretical background and then the developmental context of the emergence of the life story. Finally, we introduce the conceptual framework and research strategy pursued in this study.

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## Identity and the Life Story

The term *life story* can be used in an objective sense to designate the course of a life as seen from an observer's point of view, in terms of what really has happened in a life. Sociologists and anthropologists are interested in this aspect of lives, which is often termed *life history*. In this article, we will reserve the term *life story* for the subjective representation of the course of a life, as it is retrospectively remembered, reflected upon, or narrated.

Life stories are used in various contexts in everyday life. They are used to identify individuals, such as in personnel files or criminal records, and they are used to introduce oneself to others, both when getting to know someone more intimately and when applying for a job. Biographies are written about exemplary lives; autobiographies are written to publicize interesting facts about oneself and to explain and justify how one has become the person one is at present.

In psychology, the intimate link between subjective accounts of one's own development and personality has been used by clinicians (Freud, 1905/1953) and personality psychologists (Allport, 1942; McAdams & Pals, 2006) as a rationale for drawing on autobiographical material as a source of detailed information about an individual. But it was not until Erikson (1968) that the development of a subjective life story was made the hallmark of the attainment of a mature psychosocial identity, occurring typically by the end of adolescence. Erikson created the concept of psychosocial identity to integrate social, clinical, and developmental aspects of identity. It defines a person's individuality, consistency across situations, and continuity across time, requiring the creation of coherence between different role demands and identifications across situations and across development, as well as the synthesis of social, moral, and hedonistic demands. A well-integrated identity provides a feeling of well-being, a background sense of self-sameness and continuity, a sense of being at home in one's body,

a sense of purpose and direction, and an anticipation of being confirmed by significant others (Erikson, 1968).

Erikson's specific developmental hypothesis was that in modern societies, a new, complex, and flexible form of identity, *ego identity*, has to be achieved in adolescence. Adolescence requires an individual to go beyond childhood identifications by consciously confirming or repudiating identifications and creating a self-chosen and unique synthesis of commitments to values and roles. Erikson implied that ego identity needs to be organized not only synchronously, on the basis of identifications with roles, but first of all diachronically as a life story. Only a self that is defined by its history can include the highly individual choices made in adolescent identity exploration and prove more flexible when adapting to continuing change throughout adulthood.

In more recent theorizing, the continuing malleability of identity across adulthood has been stressed (Gregg, 2006; Kroger, 2007). Although Erikson underscored the importance of enduring commitments formed in adolescence, the flexible form of the life story is especially well suited to the integration of change across adulthood (Pals, 2006). That identity development implies a certain stability, however, is evidenced by the so-called *reminiscence bump* of autobiographical memories, which describes a relative oversampling of memories from adolescence relative to other times of life (Rubin, Rahhal, & Poon, 1998). In the case of migrants, the oversampled period is shifted to the time in life in which they migrated (Schrauf & Rubin, 2001), underscoring that periods formative of identity, most typically adolescence, do leave a stable trace.

Whereas Erikson never defined the life story as a theoretical concept, McAdams (1985) explicitly spoke of the life story as a narrative, theorizing that identity takes on the form of a life story in adolescence. McAdams proposed that ego identity manifests itself in the "good" form of a life narrative, in its coherence and consistency. McAdams' thesis does not mean that identity does not change after adolescence but only that it is then that identity first takes on the form of a life story, and it is from then on that identity is subjected to norms of global textual coherence. Coherence concerns relations between elements of a text at one point in time and is not to be confounded with notions of stability across time.

McAdams's claim that a coherent life story develops first in adolescence has, however, never been tested. Empirical research on psychosocial identity and the life story has been hampered by the abstractness and complexity of both concepts. The past 15 years has seen the development of a rich field of research into narrative identity, which, again following McAdams's (1985) concept, has used autobiographical memory narratives of single episodes (Singer, 2004). However, McAdams' interest in the life story is directed toward differences between persons and not so much toward development. In keeping with this personological approach, researchers have used single memories as typical examples of the life story that reflect the person's individuality (e.g., McAdams et al., 2006) but have not studied the specific form of a coherent life story in adolescence.

The life story may be considered the most comprehensive form of describing an individual. The life story also serves to create a sense of coherence, unity, and purpose, which is considered to be of prime importance for mental health and well-being (Antonovsky, 1985; Kernberg, 1984). Therefore, the development of the life story merits study.

## Developmental Precursors of the Life Story

When the ability to construct coherent life narratives emerges, two previously independent developmental lines merge: the development of narrative and the development of the person concept. The life story adds a diachronic dimension to personality and contextualizes past events within personality or the self. We maintain that in adolescence, the person concept becomes historical, and narrative becomes explicitly linked with the development of the self.

We have reviewed probable motivational and cognitive developmental precursors to the emergence of the life story in detail elsewhere (Habermas & Bluck, 2000). In a general vein, social-cognitive development allows adolescents to construct complex reflective thinking (Fischer & Pruyne, 2003) and to combine information from a situation and an individual's history to predict behavior (Marini & Case, 1994). More specifically, the development of the person concept in adolescence provides some support for the development of the life story in adolescence. The person concept develops from an additive model of unrelated habits to a unified psychological conception of personality in early adolescence. In mid- to late adolescence, a biographical dimension is added to the self-concept (Damon & Hart, 1986; Gurucharri & Selman, 1982).

Narrative is a universal, basic form not only of remembering but also of sharing and understanding experiences. The narrative sequence follows the sequence of original events, and narrative interprets and evaluates what has happened (Labov & Waletzky, 1967). Children learn to narrate events in their preschool years and improve their skill during grade school years (Peterson & McCabe, 1983). They learn to narrate in conversations with parents who implicitly teach them how to narrate by asking, complementing, and evaluating (Fivush, 2001). By the end of grade school, the ability to recount experiences is in place. Some childhood researchers seem to suggest that narrative development or the development of a narrative identity reaches an end point in early (Stern, 1989) or late childhood (Nelson, 1998). However, only in early adolescence does the ability to coordinate several episodes into a hierarchically organized, multiepisode narrative (van den Broek, Lynch, & Naslund, 2003) emerge.

Two developmental studies of adolescent narrative development did show that adolescents increasingly use biographical information to understand others. McKeough and Genereux (2003) asked 10-, 12-, 14-, and 17-year-olds to write a story about someone with a problem and to include flashbacks that provided a biographical background of the character. In the stories, the frequency of descriptions of flashbacks increased with the age of the children, as did their interpretative quality. Feldman, Bruner, Kalmar, and Renderer (1993) studied the comprehension of a short story by preadolescents, late adolescents, and adults. Only the older adolescents and adults included biographical information about the protagonist to explain and predict his actions.

A third developmental line relates more indirectly to the development of the life story. We argue that constructing coherence in a life narrative requires complex interpretative abilities and, correspondingly, the awareness that the facts of a life do not in themselves suffice to make a convincing true story but that a life needs to be interpreted and evaluated. There is pervasive evidence that epistemological reasoning develops throughout adolescence,



with an awareness of the necessity of interpretation emerging only in mid-adolescence (King & Kitchener, 2004).

In addition to cognitive factors, the formation of a life story is probably motivated by corresponding societal demands. These are reflected in biographical practices such as writing diaries; collecting memorabilia, photographs, and videotapes; reading biographies; and discussing personal problems with close friends or parents.

### Conceptual Framework and Research Strategy

To test the claim that the life story develops first in adolescence (McAdams, 1985), we must introduce some conceptual differentiations (cf. Habermas & Bluck, 2000). The *life story* is defined by the coherence that it creates among different circumstances and events in an individual life and between these and the development of the individual's personality, including his or her central values and life decisions. Like McAdams, we treat the term *life story* as the overarching theoretical concept. McAdams' idea of an internalized life story, together with the literary theorist Philippe Lejeune's (1994) idea that everybody carries with him or her a raw version of her or his life story that is continuously updated and revised, suggests a skeletal knowledge structure or *life story schema* (Bluck & Habermas, 2000) containing the macrostructure of one's life story. It may be conceived of as the top level in a hierarchical model of the knowledge base of autobiographical memory, which is activated whenever remembering or reflecting on the personal past in the context of one's life (Conway, Singer, & Tagini, 2004). While the life story schema is a hypothetical construct, the life story manifests itself in two classes of phenomena. Entire *life narratives* are linguistic products and are the most specific manifestation of the life story. They may vary with the specific circumstances of their production, such as whom they are told to, for which purpose, and at which age. Still, listeners expect life narratives to vary only within the limits of historical truth (Conway et al., 2004). Listeners also expect life narratives to be coherent and to explain how the narrator has become the person he or she is now. Thus, it is not enough to simply add narratives of specific incidents to each other without connecting them, even if these are coherent within themselves. What is required is more than local coherence between sentences or within single narratives. A life narrative requires *global coherence*.

Life narratives are rarely produced in their entirety. The life story manifests itself most frequently in a partial fashion in what we term *autobiographical reasoning* (Habermas & Bluck, 2000). It may show in arguments and narratives that establish links between distant parts of the personal past and the personal present, between life experiences and the development of personality.

In text linguistics, overall global coherence is understood to be "a complex, composite meta-phenomenon, involving multiple strands" (Givón, 1995, p. 59). We have suggested that four kinds of coherence are decisive for the overall global coherence of life narratives (Habermas & Bluck, 2000). Global *temporal coherence* in life narratives refers to the listener's orientation as to at which point a given event has taken place in the narrator's life. Global *causal coherence* in life narratives refers to the listener's orientation as to how actions and changes in personality are caused and motivated by biographical experiences. Both temporal coherence and causal coherence help the listener to put events into sequence

and to bridge change by providing temporal or causal-motivational links. Global *thematic coherence* refers to the reader's orientation as to which are the dominant thematic strands in the life. Dominant themes create coherence through repetition of and variation on the same theme again and again. A fourth kind of coherence is specific to life narratives, which is coherence with a *cultural concept of biography*. The more a life narrative conforms to cultural expectations of what a life story should look like, the more the listener is able to follow the narrative. In this article, we are concerned with the first three kinds of textual coherence. Conformity with the cultural concept of biography has also been investigated with this study's sample. In that investigation, the seven most important memories selected for the life narratives were compared with a list of normatively salient biographical life events (Habermas, 2007; cf. Berntsen & Rubin, 2004).

To our knowledge, the only other developmental study of free-standing responses given by participants asked for a life narrative was conducted by Quigley (2000), who did not aim at measuring textual coherence but at describing the grammatical means used to construct a responsible and active self, analyzing the use of modal verbs in 36 children who were 5, 8, and 12 years old. However, Quigley only informally observed that the 12-year-olds' anxiousness to conform to expected patterns of autobiography showed that it is only at this age that children try to create a globally cohering autobiographical self in the strict sense (Quigley, 2000, p. 158).

We argue that to study the development of a coherent life story, one must construct measures of global coherence. We pursued two different strategies, one based on global impressions of the listener or reader and the other based on formal elements of the text itself. Listener-based ratings of aspects of global coherence do the greatest justice to the global nature of coherence (cf. Fiese et al., 1999). Because life narratives are complex texts and coherence is a complex, multifaceted phenomenon, global ratings are a very coarse measure that should be complemented by more objective, text-based measures. Ratings of global coherence can only be applied to entire narratives, whereas local indicators of global coherence may also be identified in more partial autobiographical texts such as narratives of single memories. In this article, we only report measures used in whole life narratives, while a separate test of autobiographical reasoning regarding one specific episode will be reported elsewhere (Habermas, Fröhlich, & Diel, 2007).

To test the hypothesis that a coherent life story develops first in adolescence, we had to develop an approach to autobiographical narratives that differed from other approaches because our aim was to differentiate globally coherent from globally noncoherent (Linde, 1993) narratives. First, we analyzed entire life narratives, not just narratives of single memories. Second, we complemented ratings of the entire text with an analysis of formal syntactic-semantic elements. Third, we assumed that the contribution of these local elements to global coherence is additive, so that relative frequency of indicators could be used as a continuous measure of degree of local contributions to global coherence. Fourth, to minimize the influence of the interviewer on how much or little coherence was created, we did not interview participants by asking a series of questions but instead by inviting them to produce a free-standing monologue. To compensate for the absence of probing and countersuggestions, which are essential in the Piagetian tradition to test for cognitive competence, we introduced several elements into the task and the design to maximize participants'

production of coherence. Fifth, oral, not written, life narratives were collected to lower the threshold for producing narratives and to eliminate writing skill and ease as an additional factor contributing to the resulting narratives.

We briefly present the rationale for defining local indicators of global coherence and rating scales and review the few studies in which they have been used. Almost all indicators used in this study were developed in an earlier exploratory study with 12 participants who were 12-, 15-, and 18-years-old; the indicators were found to increase with participant age (Habermas & Paha, 2001). Indicators are grouped into temporal, causal, and thematic indicators.

Temporal indicators that contribute to global temporal coherence are all those specifications that allow the listener to locate events in the frame of the narrator's life, such as specifications of age, life phase, date, and distance to the present. Temporal specifications that relate only to other parts of the narrative, such as "and then" or "3 days earlier," do not by themselves contribute to global temporal coherence in a life narrative.

Causal relations in a text express natural causes of events or human motives for actions and evaluations. A mere count of causal relations, however, does not allow one to distinguish whether they contribute to local or global coherence. We argued that if one of the causally linked statements covered an extended period of time, this could indicate that the causal relation contributes to global coherence. In a study of wisdom narratives of late adolescents and middle-aged and older adults (Bluck & Glück, 2004), causal connections between an event and later life were named increasingly with age.

Linde (1993) defined two more specifically biographical indicators of causal coherence in life narratives: explanations of actions in terms of personality and, vice versa, explanations of (changes in) personality by events. Pasupathi and Mansour (2006) found an increase in these indicators across adulthood up to age 60 in some types of narratives (cf. Pasupathi, Mansour, & Brubaker, 2007).

Causal coherence is also supported by biographical arguments, in which causal connections are created within the frame of life without the intervention of explicit causal syntactic links. Two examples of biographical arguments are learning a lesson for similar future situations and extracting an abstract life maxim from an experience (McCabe, Capron, & Peterson, 1991; Pratt, Arnold, Norris, & Filyer, 1999). McLean and Thorne (2003; McLean, 2005; Thorne, McLean, & Lawrence, 2004) found either lessons or life maxims in 20%–30% of narratives of single memories by young adults. Bluck and Glück (2004) found an increase of lessons learned and maxims mentioned in wisdom-related memories between adolescence and mid-adulthood.

Thematic coherence is inherently more content based and thus harder to grasp for a formal approach to coherence such as ours. Thematic coherence is created by relations of analogy or similarity, such as those created by nuclear or prototypical episodes and their variants (McAdams, 1985). These, however, tend to be highly individualistic. A more formal means to create global coherence is found in *exemplifications*. In autobiographical narratives, general statements are often backed up by specific episodes that illustrate them (Schütze, 1984), thereby creating a hierarchical thematic link between general statement and specific instance.

Thematic coherence may be enhanced by the interpretive activity of the narrator. While the development of a subjective perspec-

tive in narrative begins at preschool age with the inclusion of evaluative statements (Fivush, 2001), only adolescents begin to realize the necessity of interpreting past events by relating a variety of subjective perspectives and circumstances, as described in studies of epistemological reasoning (King & Kitchener, 2004).

Although we did expect local indicators to contribute mostly to one kind of coherence, this did not preclude the possibility that they also would contribute to other kinds of coherence. For instance, temporal order also offers information about implicit causal relations. In addition to the local indicators, we constructed three rating scales to measure one aspect of each kind of global coherence for the whole narrative. We expected local indicators contributing to a specific aspect of coherence to correlate with the corresponding global rating.

As for the relative timing of the development of the three kinds of coherence, we expected temporal coherence to develop first, followed by causal and then by thematic coherence (Habermas & Bluck, 2000). Participants need to be enabled and motivated to narrate as coherently as they could so as to ensure that we were measuring ability, not just chance performance. We therefore reduced the memory load of the task, which is extraneous to the central ability to create coherence and differentially affects participants of different ages. In addition, we asked for life narratives twice, 2 weeks apart; in the interval, we gave one half of each age group biographical training, while the control group was given formally equivalent tasks with an unrelated content. We expected a combined effect of mere repetition with training, so that the second life narratives of the training group could be interpreted as reflecting ability more than the first narratives.

Three predictors of coherence other than age were also measured. Crystallized intelligence has been found to be somewhat related to the quality of personal narratives (Pratt & Robins, 1991) and to the amount of free eyewitness recall, while there seems to be no relation to fluid intelligence (cf. Henry & Gudjonsson, 2007). We explored the possible contribution of crystallized and fluid intelligence to the telling of coherent life narratives. Second, it is generally assumed that a major motivation to think about and create coherence in life is the experience of unexpected events and turning points in life. This expectation is supported by the finding that negative events are narrated and elaborated more extensively than positive ones (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). We therefore asked participants to name the number of negative life events they had experienced. Third, creating coherence in life narratives may be facilitated by everyday practices of discussing problems with others as well as by biographical practices such as reading biographies or writing a diary.

This study tested the general hypothesis that the life story develops first during adolescence, predicting an increase in a variety of indicators and ratings of temporal, causal, and thematic coherence in life narratives. To ensure that we measured ability, we motivated participants to perform at their maximum level by training and repeated measurement. Therefore, we also expected the maximum coherence to result in the second measurement after the training. The main hypothesis was complemented by the second hypothesis that coherence would also be predicted, in addition to age, by intelligence, negative life events, and frequency of biographical practices. Finally, we tested the third hypothesis that measures of global coherence would correlate with the corresponding global rating.

Although this study focused on general development, we also tested coherence for gender effects, because there is some evidence that females narrate more, narrate more specific events, and include more emotion words (Fivush, Brotman, Buckner, & Goodman, 2000; Pillemer, Wink, DiDonato, & Sanborn, 2003), although gender differences are not always found (Habermas, Ott, Schubert, Schneider, & Pate, in press).

## Method

### Participants

We divided 102 participants into four age groups in which the sexes were almost equally represented: 8-year-olds ( $M = 8.70$ ,  $SD = 0.24$ ;  $N = 25$ ; 12 girls and 13 boys), 12-year-olds ( $M = 12.50$ ,  $SD = 0.37$ ;  $N = 27$ ; 14 girls and 13 boys), 16-year-olds ( $M = 16.62$ ,  $SD = 0.45$ ;  $N = 25$ ; 12 girls and 13 boys), and 20-year-olds ( $M = 20.57$ ,  $SD = 0.49$ ;  $N = 25$ ; 13 women and 12 men). Six other participants from all four age groups had to be excluded due to technical problems or unwillingness to narrate.

The youngest participants were sampled from the top three classes of an elementary school in Frankfurt am Main, since in Germany children are sent to different levels of school at age 10, Gymnasium being the top level. The 12- and 16-year-olds were sampled from three classes of an average Frankfurt Gymnasium secondary school. Its student population was comparable to the mixed social composition of the elementary school population, which was predominantly middle class but with a substantial proportion of students with a lower class background. Individual parental education or socioeconomic status was not ascertained. The oldest age group was sampled from former students of the same Gymnasium. The three younger groups were approached via their parents. We presented the study at the parents' meetings of each of the three classes in each age group, with each class comprising between 24 and 32 students. Parents willing to have their children participate in the study returned written informed consent by mail. The addresses of the oldest group were taken from published "graduation journals" of the school, and former students were approached by mail. About 38% of participants had at least one parent who had migrated to Germany (immigrants from East Asia, the Americas, southern and eastern Europe, and the Near East were distributed about equally among the age groups). All participants spoke German fluently. Each participant received 20 euros.

### Procedure

All participants were tested twice, 2 weeks apart, by two (of three) different female interviewers, who were distributed equally across conditions. In the first session, the participants recounted a life narrative. Roughly half of each age group (13, 14, 13, and 12, respectively), divided about equally between the sexes, was trained by performing biography-related tasks to enhance their ability to create a coherent life narrative. One such task was the Autobiographical Reasoning Interview (Habermas et al., 2007), in which the experimenter, by posing specific questions, asks the participants to relate one significant event not told in the life narrative temporally, causally, and thematically to other parts of life. Two other tasks asked the participants for the normative age for 25 life

events and whether each of 40 life events were to be included or excluded from a life narrative (Habermas, 2007). These tasks were treated merely as training devices. The control group was also divided roughly equally between age and sex, with a total of 49 participants. They performed three tasks that were structurally similar to the training tasks but focused on neutral topics. Two weeks later, participants again recounted their life story and answered a series of questionnaires. Sessions lasted between 45 and 60 min.

### Materials

*Intelligence.* Fluid intelligence was measured with the digit-symbol substitution subtest, crystallized intelligence with the vocabulary subtest of the German version of the Wechsler Intelligence Scale for Children—Revised (Tewes, 1991) or, for the 20-year-olds, the German version of the Wechsler Adult Intelligence Scales (Tewes, Rossmann, & Schallberger, 1991). IQ values were higher in the group of 8-year-olds for both measures. Therefore, we  $z$ -standardized IQ scores separately for each age group.

*Life events.* Participants were asked whether they had ever experienced 14 specific life events that had been drawn from a German study of adolescents (Geyer, 1992a, 1992b): death of parent, severe illness, suicidal ideation, separation of parents, death of grandparent, loss of friend, parent job losses, dropping out of job training, birth of sibling, relocation, difficult final examination, leaving parental home to go to school, change of school, and mandatory repetition of a school year.

*Biographical practices.* The frequency of engaging in five biographical practices (keeping a diary, writing poems, looking at old pictures, reading old letters, reading biographies) and of confiding in a same- and cross-gender parent and friend (Zinnecker, 1985) were reported on a 9-point scale, ranging from *very often* to *never*. Biographical practices had a moderate reliability of  $\alpha = .68$ ; confiding in others had a reliability of  $\alpha = .60$ .

*Seven most important memories and life narratives.* Participants were instructed twice, 2 weeks apart, to recount their life stories for about 15 min. They were informed that the second interviewer did not know the first life narrative. Prior to recounting their life, the participants wrote their seven most important specific memories on index cards and ordered them in chronological order on the table in front of them. They were instructed to include these seven memories in their life narratives. The selection of the seven most important memories served two ends: We wanted to make sure that all participants recounted specific events so that they had to integrate these events into their life narrative, and we wanted to prevent them from providing simply a very general summary description of their life. Furthermore, the cards served to reduce the memory load, especially for the youngest age group.

Instructions were as follows:

First, I'd like to ask you to think about the seven most important events that have happened in your life. These may be events that have just happened, or they may have happened a long time ago. Then please write your seven most important memories on these seven cards. Please name only memories of very specific events. . . . Now please arrange these cards in the order in which the events happened on the table in front of you.

Then, the participants received the following instructions for recounting the life narrative:

Next, I'd like you to tell me a story involving your whole life. Please think about all the events that have happened in your life since you were born. Please integrate the seven events into your story. For example, you can tell me about the most important events in your life and the biggest changes. You can tell me things that someone like me, who doesn't know you, might like to know about you. You can also tell me how what you have experienced is still important to you today and how it has influenced what kind of person you are today. Please take about 15 min to tell your story. I will not interrupt you. After 10 min, I will tell you that you still have another 5 min. There are no right or wrong answers.

Participants were asked to repeat the instruction to make sure they had understood it. Interviewers did not intervene in the narrative but encouraged participants to continue whenever necessary. After the life narrative, participants dated all seven most important memories. An additional 8 participants were asked to tell their lives without first being asked for the seven important memories, so that we could explore the intended supportive effect of the memory cards for the younger children and exclude other distorting effects introduced by the memory cards.

*Transcription, segmentation, and interrater reliabilities.* Each life narrative was tape recorded and transcribed verbatim. The text was divided into *propositions*, which were defined as all main or subordinate clauses that were understandable, even when incomplete, or as a causal prepositional construction such as "because of." This allowed all causal relations to be coded. Incomplete sentences that were not understandable were not counted as propositions. The following example is the beginning of a life narrative (translated by Tilmann Habermas) of an 8-year-old. Slashes separate propositions:

Well, first thing, I—, I was born / and then I grew bigger and bigger / and then was—my first birthday with lots and lots of presents, and—um—many things / and then—um—my parents of course had to work / so they sent me to kindergarten and not to baby nursery / because she—because a friend of my mother worked in kindergarten / and that is better / because otherwise be— become come af— so afraid.

Two coders independently divided 20 life narratives balanced for participant sex, age, assignment to training versus control group, and measurement time (Time 1 or Time 2) into propositions, agreeing on 98.6% of the propositions. The remaining life narratives were divided into propositions, with each coder examining half.

Then groups of three coders worked on seven groups of codes (temporal indicators, causal relations and exemplifications, time span covered by statement, biographical arguments, hedges, cognitive processes, comparisons between then and now), refining a manual that had been successfully used in the aforementioned exploratory study (Habermas & Paha, 2001). We constructed the two local indicators of causal links by combining the coding of causal relations and the coding of the time span covered by the causally related statements; the other local indicators corresponded to the codes identified in the texts. Codes were categorical, and their presence or absence in each proposition was recorded. Due to the dropout of one collaborator, the interrater reliabilities could not be based on three coders for all codes. Therefore, only four of the original seven kappas were based on three coders (for these we report averaged  $\kappa$ s). For the latter codes, we failed to reach a very

good level of agreement for one code—comparison between then and now—for which agreement remained around .70. Rating scales were created for this study and were applied by two judges. All reliabilities were based on the independent coding or rating of 20 life narratives balanced for age, gender, treatment, and measurement time. Coders were initially blind to these characteristics, but narratives often contained clues for age and gender. Coders were informed about the general thesis of the study but not about the hypotheses for single codes. After a good agreement of at least .87 or intraclass reliability of .80 was reached, one judge coded all the remaining narratives, while conflicting codes for narratives used for exercise were resolved by discussion. To ensure that the one coder did not deviate from the manual in the course of coding the remaining narratives, the other (one or two) judge(s) coded 8 extra narratives located at about one third and two thirds of the way through the remaining narratives to calculate agreement in later phases of coding.

Most local indicators of global coherence were drawn from an earlier, exploratory study of the development of a coherent life story in 12-, 15-, and 18-year-olds ( $N = 12$ ; Habermas & Paha, 2001). We present one group of indicators for temporal coherence and three groups each for causal and thematic coherence. The indicators of causal coherence include causally related statements that cover an extended span of time, causal relations between statements about events and personality, and a group of five biographical arguments. The indicators of thematic coherence include exemplifications, specific hedges, and statements about specific complex cognitive processes (see Table 1 for examples).

*Indicators of temporal coherence.* Several kinds of temporal indicators were identified that allow the listener to locate an event in the life of the narrator (initial  $\kappa$  based on 20 life narratives = .90; second  $\kappa$  based on two sets of 4 life narratives = .93).

*Indicators of causal coherence.* We constructed two indicators of global coherence by combining two codes. The first code was causal relations; the second was the temporal extension of causally related statements. Propositions were coded as causally related if they were causally related in the strict sense ("because") or were consecutive ("so that"), contrastive ("although," "nevertheless"), conditional ("if . . . then"), or instrumental ("in order to"), as described by Sanders, Spooen, and Noordman (1992, 1993;  $\kappa = .88$ ; second  $\kappa = .90$ ).

To distinguish between causal relations contributing to local and to global coherence, we also coded the temporal extension of each causally related proposition. We coded circumscribed events lasting less than 1 month ("Then he hit me, so . . ."), extended events lasting longer than 1 month ("In grade school, I never fought with others, although . . ."), and statements about personality (i.e., about a personal state lasting longer than 1 month). This latter category of personality included personality traits ("I was someone who could never admit he was wrong"), basic values ("Caring for my family is what is most important to me in my life"), and biographical facts such as place of residence, profession, and enduring physical attributes. We also coded expressions of those personal states that are typically used by children to describe persons, such global social attitudes ("nice"), preferences ("I love spinach"), abilities ("She was so good in basketball"), and habits ("I used to play soccer"; cf. Selman, 1980;  $\kappa = .87$ ; second  $\kappa = .90$ ).

Two related indicators of global causal coherence were constructed from causally related statements. The first indicator, causally related statements of long duration, identified causally related

Table 1  
*Global Ratings Defined and Seven Local Indicators of Global Coherence Identified at the Level of Propositions*

Type of global coherence	Code for local indicator	Example
Temporal <sup>a</sup>	Temporal indicators	
	Life phase	“I got to know her in fourth grade”; “When I was a baby”
	Age	“When I was 9”
	Calendar date	“In 2002”; “On May 6, 2006”
Causal <sup>b</sup>	Distance from present	“That was last year”; “2 years ago”
	Causally related states of long duration	
	Extended event	“I would really like to have a real change in my life because everything’s gotten so confused.”
	Personality	“I was a very shy person then. Therefore, I never dared to ask her”
	Causal links between personal states and events	
	Personality explains action	“We did a lot of boating, because my father likes rowing.” “I actually had problems with the teachers throughout school, because I am someone who doesn’t like to adapt himself.”
	Event explains personality	“If I hadn’t joined the sports club then, I wouldn’t have friends now, and I would still be a shy person.” “After age 10, I became a shy person because the separation of my parents made me distrust others”
	Biographical arguments	
	Developmental status	“My parents’ divorce didn’t affect me much. I wasn’t really aware of what was happening. I was still too little.”
	Biographical background	“When a car suddenly raced towards us, he panicked. He had been run over by a car when he was small.” “All throughout childhood, my parents helped me with everything; they took care of all the paperwork, everything. And now I am 18, and I am still unable to organize my life.”
	Lessons learned	“That’s why I told myself, next time I fall in love, school work should not suffer from it.” “I swallowed a coin. Then I learned that I better not swallow small objects.”
	Life maxim, generalization	“I had received a bad mark, and I thought that she had given marks in a mean way. That’s what you usually think when you get a bad mark “ “I was really emotionally hooked up with him for a long time. Probably that’s what always happens when it’s the first kiss.”
Thematic <sup>c</sup>	Formative experience	“My first relationship has influenced me extremely.”
	Illustration	“I haven’t learned to do things on my own [general statement], although I am able to use the subway on my own and stuff like that, but, for example, I do not have the faintest idea how to go about anything bureaucratic [exemplification].”
	Hedges	
	Regarding explanations	“Anna is a very complicated person, just like me. Maybe [hedge] that’s why we make such a good fit.” “Maybe [hedge] that’s why I am so lazy”
	Regarding descriptions or interpretations	“I’m not sure [hedge] whether I’m going to do well at the exam.” “Now I am better able to control myself, I believe [hedge].”
	Complex cognitive processes	
Understanding	“Even then I had already understood that my mother was mentally ill.” “Then I realized how little I meant to him.”	
Opinion	“I was always convinced that he didn’t care for me.” “I was of the opinion that I didn’t need it.”	

*Note.* Global rating scale values ranged from 1 to 7 points.

<sup>a</sup> Temporal coherence (temporal orientation) = the degree to which the rater was able to follow the temporal sequence or/and the absolute timing of events in life, ranging from 0% to 100% of events. <sup>b</sup> Causal coherence (developmental consequentiality) = the degree to which the rater understood how past experiences explained how the personality, life, or outlook of the participant had changed and what the turning points and motives for these developments were, ranging from *no change in personality is described to the development of the personality is presented with its turning points and motives*. <sup>c</sup> Thematic coherence (plausible transitions) = the degree to which events followed each other in an unrelated way versus the degree to which implicit or explicit plausible links between events were provided. Raters had to decide on the relative amount of events or themes that had good transitions to the following event or theme, ranging from 0% to 100%.

propositions concerning extended events or personality, thereby contributing to global coherence. Second, we defined two codes for causal relations between statements about personality and statements about events (of short or extended duration). Personal-

ity may be used to explain an action, and events may be used to explain changes in personality.

In addition, five biographical arguments were coded. The first argument, reference to the *developmental status* of a person, may

serve to explain something she or he did or was not able to do (McCabe et al., 1991). Explaining a protagonist's behavior by referring to his or her individual *biographical background and experiences* is a second biographical argument (Feldman et al., 1993). *Learning a lesson* was coded when the narrator said that she or he had learned to react in a certain way in a quite specific situation. The code is comparable to McLean & Thorne's (2003) "learning a lesson" and Bluck & Glück's (2004) "gaining factual or procedural knowledge." *Life maxims* were coded when generalizations to life maxims or general rules of life were stated. This code was comparable to McLean & Thorne's (2003) "insight" and Bluck & Glück (2004) "life philosophy." Finally, we coded all explicit statements about formative experiences and influences ( $\kappa = .89$ ; second  $\kappa = .84$ ).

*Indicators of thematic coherence.* Exemplifications are narrations of specific events that serve to render credibility to a general statement made earlier and were coded simultaneously with causal relations. All hedges such as "maybe" or "I'm not sure" were coded because, in combination with interpretative statements such as explanations or descriptions, these statements express awareness of an interpretative stance that motivates the construction of coherence. The objects of the narrator's insecurity were coded as *explanation, evaluation, interpretation or description, knowledge* ("He probably had a better job anyway"), *memory* ("That was, I believe, in third grade"), and the process of *narrating* ("I don't know whether I've already mentioned . . .";  $\kappa = .93$ ; second  $\kappa = .89$ ). Only hedges regarding explanations and interpretations were used as indicators of global coherence. Finally, we coded statements of two complex cognitive processes that indicate the subjective processing of events in the world: statements of opinion including convictions and expectations lasting longer than at least 1 day, and statements of understanding or realizing something ( $\kappa = .90$ ; second  $\kappa = .89$ ).

*Global rating scales for temporal orientation, developmental consequentiality, and plausible transitions.* To complement the coding of the propositions, we used three 7-point scales to rate global properties of whole life stories, related to temporal, causal, and thematic coherence. Each was defined in a paragraph and by brief anchor definitions for each point (see Table 1). Single intraclass correlations ( $r_{ic}$ ) were computed between two raters on the basis of 20 life narratives, resulting in correlations of .80 ( $r_{ic} = .91$  for the second correlation) for temporal orientation, .84 (second  $r_{ic} = .91$ ) for developmental consequences, and .82 (second  $r_{ic} = .85$ ) for plausible transitions. Each rater coded half of the remaining life narratives.

## Results

Throughout the analyses, continuous variables were first tested for deviation from a normal distribution and then for outliers. Outliers and variables were transformed to approach normal distribution whenever necessary. For each of the three aspects of global coherence, we first tested effects of age, training, and gender in multivariate analyses of variance (MANOVA) for repeated measurements. We controlled for gender because of the slightly unequal distribution across age groups. Significant multivariate effects were followed up by univariate analyses. We report the multivariate results in this text. Means and standard deviations by age group are listed in Table 2, together with  $F$  values, signif-

icance and effect size for univariate main effects of age, and significant results of planned contrasts for differences between neighboring age groups. Significant effects below .05 are reported in the text for all other effects tested. To limit the number of significance tests, we tested only the seven summary local indicators (e.g., the sum of all biographical arguments) and three ratings. In addition, means and standard deviations of component local indicators (e.g., the single biographical arguments) are reported for descriptive purposes. For each indicator, the mean correlation between the two measurement times is reported. Age means are presented for all local indicators in Figures 1 and 2 and for the three ratings in Figure 3. Because some of the local indicators were, as was expected, very rare in the youngest age group, the percentage of participants who used an indicator at least once is presented in Table 3.

We first describe testing of narratives for differences in length and then for the main hypothesis of age effects on global coherence in three MANOVAS, one for the indicators and ratings of each kind of coherence. Then we explore the correlations between ratings and local indicators. Finally, we describe testing additional predictors for their influence on global coherence.

### Length of Life Narratives

The number of propositions ( $r_{T1, T2} = .77$ ) increased significantly with age, as did, to a lesser degree, the duration of narrations. Number of propositions differed significantly between 8-year-olds and 12-year-olds ( $p = .005$ ) and between 12-year-olds and 16-year-olds ( $p = .012$ ); narrative duration differed between 16-year-olds and 20-year-olds ( $p = .015$ ). There was a trend for women to produce longer narratives ( $M = 229.7$ ,  $SD = 79.0$ ) than men ( $M = 200.1$ ,  $SD = 89.1$ ),  $F(1, 86) = 3.87$ ,  $p = .053$ , partial  $\eta^2 = .04$ . The mean number of words in propositions did not vary with age. To compensate for the differences in length of narratives, we compared not absolute but relative frequencies of indicators per proposition.

### Effects of Age, Gender, Training, and Retesting on Local Indicators and Ratings of Coherence

*Temporal coherence.* First, the sum of all indicators allowing one to temporally locate an event in the narrator's life ( $r_{T1, T2} = .51$ ) and the global rating of temporal orientation ( $r_{T1, T2} = .43$ ) were tested for effects of age, gender, training, and retesting in a MANOVA. Significant multivariate effects showed for age, Pillai's  $F(6, 172) = 7.53$ ,  $p = .000$ , partial  $\eta^2 = .21$ ; for the interaction of age with gender, Pillai's  $F(6, 172) = 2.39$ ,  $p = .030$ , partial  $\eta^2 = .08$ ; and for retesting, Pillai's  $F(2, 85) = 4.91$ ,  $p = .010$ , partial  $\eta^2 = .10$ . Univariate tests revealed the expected age effects in the rating of temporal orientation, which increased monotonously with age (see Table 2 and Figure 3), while local temporal indicators failed to reach significance ( $p = .072$ ) when overall differences between age groups were tested (see also Figures 1 and 2). Inspection of age differences in single temporal indicators (see Table 2) reveals that life phases were used increasingly with age, as were correct dates, which were near-absent in the narratives of the youngest group (see Table 3). This suggests that life narratives are increasingly anchored in calendar or historical time as well as in a structured concept of the life course.

Table 2  
Means and Standard Deviations of Length of Life Narratives, Relative Frequencies of Seven Local Indicators, and Global Ratings

Variable	Age Group								ANOVA age group <sup>a</sup>		
	8-year-olds		12-year-olds		16-year-olds		20-year-olds		F(3, 86)	partial η <sup>2</sup>	Significant contrast <sup>b</sup>
	M	SD	M	SD	M	SD	M	SD			
No. of propositions	146.66	68.37	201.04	86.57	248.58	88.93	274.80	63.34	17.01***	.37	8<12<16
Duration (min)	11.95	3.14	12.54	2.60	13.47	2.33	14.49	2.64	5.14**	.15	16<20
	Percent of propositions										
<b>1. All temporal indicators</b>	<b>3.79</b>	<b>2.01</b>	<b>5.09</b>	<b>3.09</b>	<b>5.23</b>	<b>1.52</b>	<b>6.30</b>	<b>1.95</b>	<b>2.42</b>	<b>.08</b>	
Life phase	1.93	1.32	1.91	1.15	2.58	1.25	3.08	1.39			
Age	1.37	1.08	1.72	1.63	1.13	0.82	1.50	0.78			
Calendar date	0.02	0.06	0.74	1.56	0.37	0.48	0.94	1.11			
Distance from present	0.48	0.56	0.73	0.59	1.15	0.72	0.78	0.61			
All causal relations	7.84	3.61	9.67	3.01	10.59	2.48	10.29	2.53			
<b>2. Causally related states of long duration</b>	<b>1.34</b>	<b>0.83</b>	<b>2.85</b>	<b>1.38</b>	<b>4.38</b>	<b>1.45</b>	<b>5.51</b>	<b>1.74</b>	<b>44.20***</b>	<b>.61</b>	<b>8&lt;12&lt;16&lt;20</b>
<b>3. Causal links between personality and events</b>	<b>0.11</b>	<b>0.24</b>	<b>0.51</b>	<b>0.55</b>	<b>0.49</b>	<b>0.42</b>	<b>0.51</b>	<b>0.53</b>	<b>7.24***</b>	<b>.20</b>	<b>8&lt;12</b>
Personality explains event	0.09	0.24	0.33	0.41	0.32	0.33	0.34	0.38			
Event explains personality	0.02	0.07	0.17	0.23	0.17	0.25	0.17	0.26			
<b>4. All biographical arguments</b>	<b>0.32</b>	<b>0.52</b>	<b>0.55</b>	<b>0.55</b>	<b>1.08</b>	<b>0.90</b>	<b>1.48</b>	<b>1.18</b>	<b>14.99***</b>	<b>.39</b>	<b>12&lt;16</b>
Developmental status	0.08	0.19	0.20	0.24	0.25	0.26	0.27	0.30			
Biographical background	0.01	0.04	0.11	0.28	0.15	0.26	0.06	0.10			
Lessons learned	0.00	0.00	0.01	0.06	0.05	0.12	0.00	0.00			
Life maxim	0.23	0.51	0.23	0.32	0.44	0.54	0.69	0.61			
Formative experience	0.00	0.00	0.00	0.00	0.20	0.45	0.46	0.51			
<b>5. Exemplification</b>	<b>0.18</b>	<b>0.24</b>	<b>0.56</b>	<b>0.45</b>	<b>0.64</b>	<b>0.50</b>	<b>0.92</b>	<b>0.51</b>	<b>20.77***</b>	<b>.42</b>	<b>8&lt;12; 16&lt;20</b>
<b>6. Hedges overall (explanations/interpretations)</b>	<b>1.15</b>	<b>0.85</b>	<b>2.61</b>	<b>1.86</b>	<b>2.89</b>	<b>1.51</b>	<b>3.55</b>	<b>1.70</b>	<b>10.17***</b>	<b>.26</b>	<b>8&lt;12</b>
Regarding explanation	0.26	0.29	0.54	0.55	0.58	0.59	0.67	0.50			
Regarding interpretation	0.89	0.80	2.12	1.57	2.31	1.15	2.88	1.34			
Other hedges											
Regarding knowledge	0.35	0.37	0.31	0.32	0.16	0.19	0.10	0.12			
Regarding memory	0.99	1.05	0.69	0.77	0.83	0.71	0.76	0.72			
Regarding narration	0.01	0.02	0.14	0.18	0.39	0.41	0.31	0.29			
<b>7. Complex cognitive processes</b>	<b>0.87</b>	<b>0.84</b>	<b>2.35</b>	<b>1.71</b>	<b>2.93</b>	<b>1.62</b>	<b>3.81</b>	<b>1.23</b>	<b>28.81***</b>	<b>.50</b>	<b>8&lt;12; 16&lt;20</b>
Understanding	0.23	0.37	0.43	0.34	0.70	0.88	0.98	0.61			
Opinion	0.64	0.77	1.92	1.53	2.24	1.28	2.84	1.25			
	Rating scales (values 1-7)										
Temporal orientation	3.76	1.36	5.02	1.09	5.16	0.87	5.90	0.76	19.77***	.41	8<12; 16<20
Developmental consequentiality	1.52	0.37	2.23	0.73	4.08	1.26	4.80	1.22	69.74***	.69	8<12<16<20
Plausible transitions	2.76	1.01	2.98	1.14	3.10	0.92	3.70	0.94	4.00**	.12	12<16<20
	Additional predictors										
No. of life events	2.84	1.28	4.19	1.69	3.47	1.95	5.61	1.96			
Autobiographical practices	1.65	0.33	1.89	0.31	1.92	0.34	1.91	0.32			
Confiding in others	3.14	1.97	3.68	1.08	4.11	1.69	4.40	1.64			

Note. Only the seven local indicators (set in boldface) have been tested for significance. Means and standard deviations of the component codes of local indicators and of some other variables for which no hypotheses were formulated are reported merely for descriptive purposes. ANOVA= analysis of variance.

<sup>a</sup> Only age effects are reported here; significant effects of gender, treatment and measurement time, and all interactions are reported in the results section. <sup>b</sup> Planned contrasts were performed to test the differences between neighboring age groups. Significant differences are indicated by <.

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

A significant interaction between age and gender showed in the rating of temporal orientation,  $F(3, 86) = 2.99, p = .036$ , partial  $\eta^2 = .09$ . Whereas temporal orientation increased monotonously in females, males had lower values than females at ages 8 and 16, resulting in a local maximum at age 12 and an absolute maximum at age 20. Finally, retesting resulted in an increase in temporal orientation after 2 weeks,  $F(1, 86) = 8.97, p = .004$ , partial  $\eta^2 = .09$  ( $M_{T1} = 4.68, SD = 1.40; M_{T2} = 5.17, SD = 1.57$ ).

*Causal coherence.* To construct two of the local indicators of causal coherence, we proceeded in two steps. First, all four kinds of causal relations were coded (causal-consecutive, contrastive, conditional, instrumental; mean  $r_{T1, T2} = .29$ ), which did increase almost monotonously with age,  $F(3, 86) = 4.25, p = .001$ , partial  $\eta^2 = .13$ . To differentiate contributions to global from contributions to local causal coherence, we then constructed two specific indicators: the relative frequency of causally related statements of

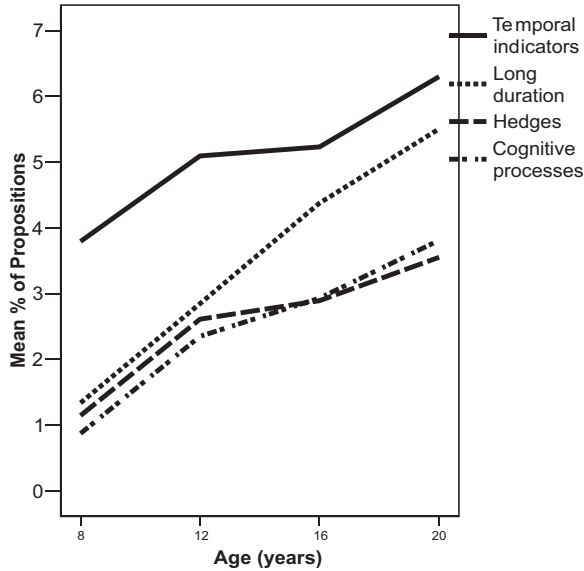


Figure 1. Mean percentage of propositions with local indicators of global coherence—temporal indicators, causally related propositions of long duration, hedges regarding interpretations and descriptions, and cognitive processes regarding understanding and opinion by age, averaged across measurement times.

long duration (mean  $r_{T1, T2} = .60$ ) and causal links between events (brief or extended) and personality (mean  $r_{T1, T2} = .19$ ).

First, causally related statements of long duration, causal relations between events and personality, the sum of all biographical arguments (mean  $r_{T1, T2} = .32$ ), and the global rating of developmental consequentiality (mean  $r_{T1, T2} = .69$ ) were tested for

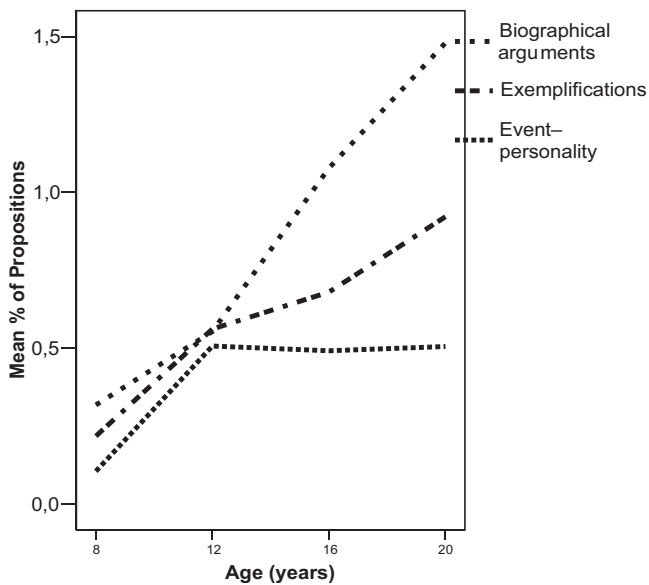


Figure 2. Mean percentage of propositions with local indicators of global coherence—biographical arguments, exemplifications, and causal relations between events and personality by age, averaged across measurement times.

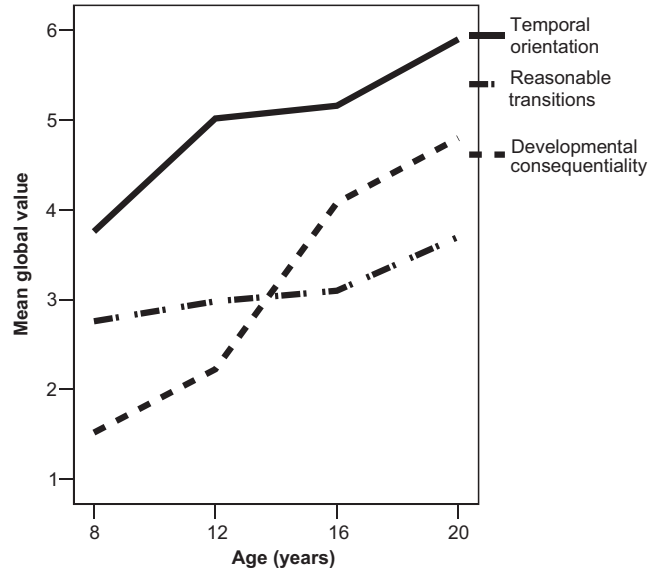


Figure 3. Mean values on global ratings for temporal orientation, plausible transitions between events, and developmental consequentiality by age, averaged across measurement times.

effects of age, gender, training, and retesting in a MANOVA. Significant multivariate effects showed for age, Pillai's  $F(12, 255) 9.86, p = .000$ , partial  $\eta^2 = .32$ ; for retesting after 2 weeks, Pillai's  $F(4, 83) = 3.46, p = .012$ , partial  $\eta^2 = .14$ ; and for an interaction between retesting and age, Pillai's  $F(12, 255) = 2.39, p = .006$ , partial  $\eta^2 = .10$ . Univariate tests revealed the expected age effects in all four dependent variables.

It could be argued that the causal relations of long duration and causal relations between events and personality only increased with age because all causal relations increased with age. Therefore, we also tested the effects of age on the frequency of these two indicators relative not to all propositions but to all causal relations, with the same analysis of variance (ANOVA; with age, gender, training, and repetition as factors). Both causal relations of long duration,  $F(3, 86) = 43.79, p = .000$ , partial  $\eta^2 = .60$ , and causal relations between events and personality,  $F(3, 86) = 4.28, p = .010$ , partial  $\eta^2 = .13$ , continue to increase significantly with age ( $M = 18.9\%$ ,  $SD = 12.4\%$  for 8-year-olds;  $M = 28.7\%$ ,  $SD = 10.6\%$  for 12-year-olds;  $M = 40.9\%$ ,  $SD = 10.9\%$  for 16-year-olds; and  $M = 53.3\%$ ,  $SD = 10.8\%$  for 20-year-olds of all causally related statements of long duration, and  $M = 0.01\%$ ,  $SD = 0.01\%$  for 8-year-olds and  $M = 0.02\%$ ,  $SD = 0.02\%$  for each of the three older groups of all causal relations between personality and events).

Since the distribution of relative frequencies of causal relations between personality and events strongly deviated from a normal distribution due to the large number of participants who did not use them even once (see Table 3), age differences were also tested nonparametrically with the Jonckheere–Terpstra test, which is designed to detect linear differences between ordered classes such as age groups. Again, there was a significant overall increase in the use of causal relations between personality and events.

Univariate tests of the effects of retesting and of its interaction with age revealed significant effects only for biographical argu-



Table 3  
*Percentage of Participants Who Used Local Indicators at Least Once in Either of the Two Life Narratives*

Local indicator	Age group			
	8-year-olds	12-year-olds	16-year-olds	20-year-olds
1. All temporal indicators	100.0	100.0	100.0	100.0
Life phase	92.0	100.0	96.0	100.0
Age	92.0	81.5	92.5	100.0
Date	8.0	59.3	56.0	92.0
Distance from present	56.0	85.2	96.0	88.0
2. Causally related states of long duration	96.0	100.0	100.0	100.0
3. Causal links between event and personality	20.0	77.8	76.0	80.0
Personality explains event	12.0	66.7	72.0	68.0
Event explains personality	8.0	54.4	54.0	40.0
4. All biographical arguments	44.0	74.1	92.0	100.0
Developmental status	20.0	51.9	68.0	64.0
Biographical background	4.0	22.2	40.0	32.0
Lessons learned	0.0	3.7	16.0	0.0
Life maxim	24.0	40.7	68.0	88.0
Formative experience	0.0	0.0	28.0	68.0
5. Exemplifications	44.0	81.5	88.0	96.0
6. All hedges	80.0	85.2	100.0	100.0
Regarding explanations	52.0	66.7	88.0	84.0
Regarding interpretation	80.0	85.2	100.0	100.0
7. Complex cognitive processes	68.0	92.6	100.0	100.0
Understanding	36.0	77.8	80.0	92.0
Opinion	56.0	92.6	100.0	100.0

ments, with  $F(1, 86) = 11.47, p = .001$ , partial  $\eta^2 = .12$ , for retesting after 2 weeks, and  $F(3, 86) = 7.04, p = .000$ , partial  $\eta^2 = .20$ , for the interaction between retesting with age. Inspection of means by age and measurement time showed that at ages 12 and 20, participants used fewer biographical arguments at Time 2 than at Time 1.

Inspection of means (Table 2 and Figures 1–3) reveals a monotonous increase with age in all indicators except for causal relations between personality and events, for which an increase was only measurable between the 8- and the 12-year-olds, with no differences between the three older age groups. Table 3 also shows that the causal relations between personality and events and the biographical arguments were used by none or extremely few of the children in the youngest age group, but use of these indicators rose considerably in older participants up to age 20. This is strong evidence for the absence of global coherence in life narratives in children.

*Thematic coherence.* Four dependent variables related to thematic coherence were tested for the effects of age, gender, training, and retesting in a MANOVA: the global rating of plausible transitions (mean  $r_{T1, T2} = .22$ ), exemplifications (mean  $r_{T1, T2} = .69$ ), hedges (mean  $r_{T1, T2} = .59$ ) regarding explanations and descriptions, and cognitive processes of understanding and opinion (mean  $r_{T1, T2} = .74$ ). Significant multivariate effects showed for age, Pillai's  $F(12, 255) = 6.56, p = .000$ , partial  $\eta^2 = .24$ ; for gender, Pillai's  $F(4, 83) = 3.82, p = .007$ , partial  $\eta^2 = .16$ ; and for an interaction among retesting, age, and gender, Pillai's  $F(12, 255) = 2.07, p = .019$ , partial  $\eta^2 = .09$ . Univariate tests revealed the expected monotonous age effects for all four dependent variables (see Table 2 and Figures 1–3).

Univariate tests revealed that female participants used more cognitive processes,  $F(1, 86) = 19.30, p = .000$ , partial  $\eta^2 = .15$

( $M = 2.93\%$ ,  $SD = 1.64\%$  vs.  $M = 1.97\%$ ,  $SD = 1.59\%$  in male participants). A significant interaction among age, gender, and measurement time was found both for exemplifications,  $F(3, 86) = 2.94, p = .038$ , partial  $\eta^2 = .09$ , and for ratings of plausible transitions,  $F(3, 86) = 5.834, p = .026$ , partial  $\eta^2 = .10$ . Inspection of means by age, gender, and measurement time showed complex patterns. Deviations from a monotonous increase of exemplifications with age showed for 16-year-old boys at the first testing and for 20-year-old women at the second testing, while deviations from a monotonous increase in plausible transitions showed for 12-year-old girls in the first testing and for 16-year-old boys in the second testing.

Only hedges regarding explanations and descriptions increased monotonously with age, whereas hedges regarding knowledge decreased (Table 2), indicating that concerns regarding correctness of statements—as reflected in the use of hedges—shifts with age from simple knowledge to more interpretative descriptions and explanations.

Thus, age had a pervasive effect on local indicators and ratings of global coherence. Repetition had very few effects: an increase in the rated temporal orientation and a decrease of the use of biographical arguments in two age groups, while neither training nor the interaction of training and repetition had any effect whatsoever.

#### *Intelligence, Life Events, and Biographical Practices*

We explored whether fluid and crystallized intelligence, number of negative life events, biographical practices, and confiding in others contributed to the prediction of coherence. Three of these predictors also correlated with age: number of negative life events,  $r = .42$ ; biographical practices,  $r = .27$ ; and confiding in others,  $r = .28$ . Therefore, we calculated four hierarchical analyses of

covariance (ANCOVAs) or multivariate analyses of covariance (MANCOVAs), one for length of narrative and one for each kind of coherence. The factors of age and gender and their interaction were tested first, and then the five continuous predictors were entered in the order listed earlier. Dependent variables were averaged across measurement time. The rationale was to test whether continuous variables could predict coherence in addition to age. Age was highly significant ( $p = .000$ ) in all analyses. Of the continuous predictors, only biographical practices significantly predicted one kind of coherence: temporal coherence,  $F(2, 88) = 3.19, p = .046$ , partial  $\eta^2 = .07$ . However, biographical practices was not a significant predictor in either of the univariate analyses. Crystallized intelligence reached borderline significance in the prediction of length of life narratives,  $F(1, 89) = 3.90, p = .051$ , partial  $\eta^2 = .04$ .

*Intercorrelations Between Local Indicators and Global Ratings*

We correlated the text-based local indicators and global ratings with each other to test whether indicators correlated with the ratings of the same aspects of coherence shown in Table 4. We interpreted only correlations with a significance of  $p < .01$  (i.e., from  $r = .26$  upward) because of the great number of correlations ( $N = 21$ ). Since most indicators correlated highly with age, we partialled out age.

Of the local indicators, only temporal indicators, biographical arguments, and exemplifications correlated with the corresponding global ratings. In testing the total distribution of expected (3 significant and 13 nonsignificant) versus unexpected (1 significant and 4 nonsignificant) correlations between local indicators on the one hand and the three global ratings on the other hand, we found that the distribution in this cross-table deviated significantly from chance,  $\chi^2(1, N = 21) = 3.86, p = .049$ .

Discussion

This first study of the development of entire life narratives has shown that there is an increase in the relative frequency of a

variety of local indicators and an increase in ratings of global coherence across the adolescent age range, providing the first direct test of an overwhelming support for McAdams' (1985) hypothesis that the life story develops in adolescence.

Temporal coherence increased most between the ages 8 and 12, most clearly in the ratings and with a similar trend in local indicators. This expected finding was mirrored by a comparable developmental pattern in the acquisition of biographical knowledge in the half of the sample who received training (Habermas, 2007). The near-absence of calendar dates in narratives of the youngest age group confirmed experimental findings on the acquisition of calendar time between ages 10 and 12 (Friedman, 2004).

Both local indicators and global ratings of causal coherence increased with age as expected. The relatively high percentage (compared with adults) of participants in the three older age groups who used causal event–personality links and biographical arguments at least once (cf. Bluck & Glück, 2004; McLean & Thorne, 2005; Pasupathi & Monsour, 2006) probably results both from the greater length of narratives analyzed here and from our wide definition of personality, which included descriptions of personality typical for grade school children. This wide definition was tailor-made for our age range. However in the future, when analyzing biographical reasoning, investigators should use an adult concept of personality because only this corresponds to an adult understanding of biography.

Thematic coherence also increased across all measures. Thus, indicators and ratings of all three kinds of global coherence increased with age, confirming the main hypothesis that global coherence in life narratives develops across adolescence. However, it might be argued that the hypothesis requires children to produce life narratives with a total lack of indicators of global coherence. Some indicators indeed are missing in all or almost all of the narratives of the youngest age group. These are also the indicators that are most specifically biographical because they explicitly refer to personal development—biographical arguments and events explaining personality development—and also exem-

Table 4  
*Correlations of Narrative Coherence Variables With Age and Partial Correlations Among Coherence Variables, With Age Partialled Out*

Measure	Age	1	2	3	4	5	6	7	8	9
Local indicators										
1. Temporal indicators	.24									
2. Causal states—long duration <sup>a</sup>	<b>.75</b>	-.07								
3. Causal links—personality and events <sup>b</sup>	<b>.37</b>	-.01	<b>.40</b>							
4. Biographical arguments	<b>.52</b>	-.02	.08	.20						
5. Exemplifications	<b>.53</b>	-.22	.00	<b>.43</b>						
6. Hedges (explanation/interpretation) <sup>c</sup>	<b>.48</b>	-.07	.08	.03	-.11	.01				
7. Cognitive processes	<b>.60</b>	-.16	.09	.11	.19	.09	.07			
Rating scales										
8. Temporal orientation	<b>.57</b>	<b>.35<sup>d</sup></b>	-.04	.07	.00	.05	-.11	.06		
9. Developmental consequentiality	<b>.80</b>	-.12	.13 <sup>d</sup>	.14 <sup>d</sup>	<b>.39<sup>d</sup></b>	.14	-.05	.22	-.06	
10. Plausible transitions	<b>.31</b>	<b>-.29</b>	.08	.10	.01	<b>.26<sup>d</sup></b>	.03 <sup>d</sup>	.02 <sup>d</sup>	.17	.11

Note. Levels of significance for correlations:  $p < .01$  for  $r = .26$ ;  $p < .001$  for  $r = .32$ ; all  $ps < .05$  are marked in bold.  
<sup>a</sup> Causally related propositions about states lasting longer than 1 month. <sup>b</sup> Causal relations between personality and events. <sup>c</sup> Hedges regarding explanations and descriptions and interpretations. <sup>d</sup> Expected significant correlations between indicators of the same aspect of global coherence.

plications and calendar dates. Knowledge of calendar time allows the most precise temporal coordination of life events, and using exemplifications in response to the demand to recount one's life does reflect an understanding of the task as talking about events in order to describe oneself. Thus, the indicators that are most inherently biographical are nearly missing in children, thereby providing even stronger support for McAdams' (1985) hypothesis than is given by a mere increase in indicators and ratings across adolescence.

Another objection to the interpretation of the results could be that the relative frequency of central local indicators is low and that therefore their relevance is limited. However, in any given life narrative, the bulk of propositions are needed to provide the biographical material that is then made coherent. It might even be more appropriate to compare the percentages of individuals in each age group who do and do not use, for example, a biographical argument (cf. Pasupathi & Mansour, 2006). But even when one is pursuing a quantitative strategy, as was done in this article, not very many local indicators are required to render a life narrative coherent.

Inspection of global ratings suggests that temporal coherence increases most between ages 8 and 12, causal coherence most between ages 12 and 16, and thematic coherence most between ages 16 and 20. Although this pattern does correspond to expectations (Habermas & Bluck, 2000), planned contrasts only partially confirm visual impressions. Moreover, the increases in local indicators of causal and thematic coherence with age do show a different pattern, with the steepest increase between ages 8 and 12.

Training and repetition of narrating one's life showed few effects on global coherence. Therefore, we could not distinguish between mere performance and competence. On the other hand, the stability of performance in spite of training suggests that limitations in coherence in younger age groups are not due to a lack of trivial skills or a lack of practice. To summarize, this study has provided, for the first time, direct evidence (meeting the criterion of global textual coherence in life narratives) that the life story emerges and develops across adolescence.

Intelligence, life events, biographical practices, or confiding in others did not predict coherence. Possibly other cognitive and developmental factors discussed by Habermas and Blück (2000) influence the development of coherence in life narratives more than those tested in this study.

Finally, correlations between local indicators and ratings only partially conformed to the hypothesized pattern. For each kind of coherence, one local indicator correlated with the correct rating scale. These were temporal indicators, biographical arguments, and exemplifications, that is, three of the four indicators that had very low frequencies in the youngest group. Therefore, concurrent evidence points to these local indicators as specific for the respective kind of coherence. In addition, if personality was defined more narrowly, causal relations between events and personality might also qualify as a good indicator of causal coherence. Possibly causally related statements of long duration are not specific enough to life narratives, and hedges regarding explanations and interpretations and complex cognitive processes are too indirectly related to global thematic coherence to be good indicators.

A major limitation of this study is that it was restricted to a relatively homogeneous sample in terms of educational level and cultural identity. Although the cultural background of participants'

parents was quite diverse, as is typical for a major European city, the content of life narratives suggests that almost all participants were well immersed in German culture. Moreover, the two older groups showed a very good knowledge of cultural age norms (Habermas, 2007). Anthropological evidence points to the nonuniversality of telling one's life story (Tonkin, 1992), and developmental evidence points to strong cultural differences in remembering and the related construction of the self (Wang, 2004). As a consequence, possible variations in the development of life narratives remain to be studied both in educationally and culturally distinct groups. In addition, cohort effects cannot be excluded. However, the maximal difference in birth year was only 12 years, rendering cohort differences improbable.

Future research needs to address three areas of interest. First, the attempt to quantify a complex phenomenon such as the global coherence in life narratives warrants the development of additional, qualitative measures especially for thematic coherence, such as explicit statements of recurrent themes in life or metaphors of the self that integrate a variety of experiences. Also, for temporal coherence, deviations from a linear temporal order could simply be counted. Global ratings of coherence could be supplied by experts such as teachers of literature. These additional measures should correlate with the more successful measures introduced here.

Also, the development of the life story in adolescence should be compared with related phenomena. The expected close relationship between life narrative coherence and autobiographical reasoning in more partial narratives, for example, could be confirmed in half of this sample (Habermas et al., 2007). The development of coherence in life narratives should also be demonstrated in the spontaneous tendency to use the past to define the current self, for example, in free self-descriptions. Our theoretical assumptions also predict that autobiographical reasoning parallels what could be called *heterobiographical reasoning*, or the ability to create biographical coherence in narratives of others' lives. Other related constructs differ from the life story due to their focus on individual differences, such as Marcia's (1966) identity status and attachment security. The moderate positive correlation between ratings of *meaning making* in turning-point narratives, which corresponds to our indicators *gaining insight* and *life maxims*, and an index supposedly reflecting identity achievement (McLean & Pratt, 2006) does not contradict a more distant relationship between the constructs. Similarly, although coherence is the single most important criterion for attachment security in the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985), this kind of coherence is less formal and more content based, requiring the absence of incoherence or implicit contradictions. We suggest that the relation between the life story and coherence in the AAI is one of presupposition: Answering the questions of the AAI directed at a biographical understanding of one's life requires the ability for autobiographical reasoning. Accordingly, the AAI is not administered to children before about age 15.

Finally, there is a need to explore social, social-cognitive, and motivational developments that possibly facilitate the development of the life story. Neither the number of negative life events nor the frequency of biographical practices was related to the life story of participants in this study. Social practices such as specific ways of talking about lives with parents, similar to the socializing practices of memory talk in preschool children (Haden, Haime, & Fivush,

1997), might be influential, as might more general social-cognitive developments in adolescence.

## References

- Allport, G. W. (1942). *The use of personal documents in psychological science*. New York: Social Science Research Council.
- Antonovsky, A. (1985). The life cycle, mental health, and the sense of coherence. *Israel Journal of Psychiatry and Related Sciences*, 22, 72–80.
- Bauer, P. J. (2006). *Remembering the times of our lives: Memory in infancy and beyond*. Mahwah, NJ: Erlbaum.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 323–370.
- Berntsen, D., & Rubin, D. C. (2004). Cultural life scripts structure recall from autobiographical memory. *Memory & Cognition*, 32, 427–442.
- Bluck, S., & Glück, J. (2004). Making things better and learning a lesson: Experiencing wisdom across the life span. *Journal of Personality*, 72, 543–572.
- Bluck, S., & Habermas, T. (2000). The life story schema. *Motivation & Emotion*, 24, 121–147.
- Conway, M., Singer, A., & Tagini, A. (2004). The self and autobiographical memory: Correspondence and coherence. *Social Cognition*, 22, 491–529.
- Damon, W., & Hart, D. (1986). Stability and change in children's self-understanding. *Social Cognition*, 4, 102–118.
- Erikson, E. H. (1968). *Identity, youth, and crisis*. New York: Norton.
- Feldman, C., Bruner, J., Kalmar, D., & Renderer, B. (1993). Plot, plight, and dramatism: Interpretation at three ages. *Human Development*, 36, 327–342.
- Fiese, B. H., Sameroff, A. J., Grotevant, H. D., Wamboldt, F. S., Dickstein, S., & Fravel, D. L. (Eds.). (1999). The stories that families tell: Narrative coherence, narrative interaction, and relationship beliefs. *Monographs of the Society for Research in Child Development*, 64 (2, Serial No. 257).
- Fischer, K., & Pruyne, E. (2003). Reflective thinking in adulthood: Emergence, development, and variation. In J. Demick & C. Andreoletti (Eds.), *Handbook of adult development* (pp. 169–198). New York: Kluwer Academic/Plenum Publishers.
- Fivush, R. (2001). Owning experience: Developing subjective perspective in autobiographical narratives. In C. Moore & K. Lemmon (Eds.), *The self in time: Developmental perspectives*, (pp. 35–52). Mahwah, NJ: Erlbaum.
- Fivush, R., Brotman, M. A., Buckner, J. P., & Goodman, S. H. (2000). Gender differences in parent-child emotion narratives. *Sex Roles*, 42, 233–253.
- Freud, S. (1953). Fragment of an analysis of a case of hysteria. In J. Strachey (Ed. & Trans.), *Standard edition of the complete psychological works of Sigmund Freud: Vol. 7 (1901–1905). A case of hysteria, three essays on sexuality, and other works* (pp. 7–122). London: Hogarth Press. (Original work published 1905)
- Friedman, W. J. (2004). Time in autobiographical memory. *Social Cognition*, 22, 591–605.
- Geyer, S. (1992a). Lebensverändernde Ereignisse, soziale Ungleichheit und Belastungen [Life-changing events, social inequality, and stress]. In J. Zinnecker (Ed.), *Jugend '92, Band 2* (p. 221–237). Opladen, Germany: Leske & Budrich.
- Geyer, S. (1992b). Methodische Aspekte der Erfassung lebensverändernder Ereignisse [Methodological aspects of measuring life-changing events]. In J. Zinnecker (Ed.), *Jugend '92, Band 4*, (p. 27–40). Opladen, Germany: Leske & Budrich.
- Givón, T. (1995). Coherence in text vs. coherence in mind. In A. Gernsbacher & T. Givón (Eds.), *Coherence in spontaneous text* (pp. 59–115). Amsterdam: Benjamins.
- Gregg, G. S. (2006). The raw and the bland: A structural model of narrative identity. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.), *Identity and story: Creating self in narrative* (pp. 63–87). Washington, DC: American Psychological Association.
- Gurucharri, C., & Selman, R. (1982). The development of interpersonal understanding during childhood, preadolescence, and adolescence. *Child Development*, 53, 924–927.
- Habermas, T. (2007). How to tell a life: The development of the cultural concept of biography across the lifespan. *Journal of Cognition and Development*, 8, 1–31.
- Habermas, T., & Bluck, S. (2000). Getting a life: The development of the life story in adolescence. *Psychological Bulletin*, 126, 748–769.
- Habermas, T., Fröhlich, A., & Diel, V. (2007). Autobiographical reasoning from late childhood to early adulthood: The Autobiographical Reasoning Interview. Unpublished manuscript, University of Frankfurt am Main, Germany.
- Habermas, T., Ott, L. M., Schubert, M., Schneider, B., & Pate, A. (in press). Stuck in the past: Negative bias, explanatory style, temporal order, and evaluative perspectives in life narratives of clinically depressed individuals. *Depression and Anxiety*.
- Habermas, T., & Paha, C. (2001). The development of coherence in adolescents' life narratives. *Narrative Inquiry*, 11, 35–54.
- Haden, C. A., Haine, R. A., & Fivush, R. (1997). Developing narrative structure in parent-child reminiscing across the preschool years. *Developmental Psychology*, 33, 295–307.
- Henry, L. A., & Gudjonsson, G. H. (2007). Individual and developmental differences in eyewitness recall and suggestibility in children with intellectual disabilities. *Applied Cognitive Psychology*, 21, 361–381.
- Kernberg, O. F. (1984). *Severe personality disorders*. New Haven, CT: Yale University Press.
- King, P. M., & Kitchener, K. S. (2004). Reflective judgment: Theory and research on the development of epistemic assumptions through adulthood. *Educational Psychologist*, 39, 5–18.
- Kroger, J. (2007). *Identity development: Adolescence through adulthood*. Thousand Oaks, CA: Sage.
- Labov, W., & Waletzky, J. (1967). Narrative analysis: Oral versions of personal experience. In I. Helm (Ed.), *Essays on the verbal and visual arts: Proceedings of the 1966 annual spring meeting of the American Ethnological Society* (pp. 12–44). Seattle, WA: University of Washington Press.
- Lejeune, P. (1975). *On autobiography*. Minneapolis, MN: University of Minnesota Press.
- Linde, C. (1993). *Life stories*. Cambridge, UK: Cambridge University Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and attachment: A move to the level of representation. In I. Bretherton, & E. Waters (Eds.), *Growing points of attachment research. Monographs of the Society for Research in Child Development*, 50(1–2), 66–104.
- Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology*, 3, 551–558.
- Marini, Z., & Case, R. (1994). The development of abstract reasoning about the physical and social world. *Child Development*, 65, 147–159.
- McAdams, D. P. (1985). *Power and intimacy*. New York: Guilford.
- McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, et al. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality*, 74, 1371–1400.
- McAdams, D. P., & Pals, J. (2006). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist*, 61, 204–217.
- McCabe, A., Capron, E., & Peterson, C. (1991). The voice of experience: The recall of early childhood and adolescent memories by young adults. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 137–173). Hillsdale, NJ: Erlbaum.

- McKeough, A., & Genereux, R. (2003). Transformation in narrative thought during adolescence: The structure and content of story composition. *Journal of Educational Psychology, 95*, 537–557.
- McLean, K. (2005). Late adolescent identity development: Narrative meaning making and memory telling. *Developmental Psychology, 41*, 683–691.
- McLean, K., & Pratt, M. W. (2006). Life's little (and big) lessons: Identity status and meaning making in turning point narratives of emerging adults. *Developmental Psychology, 42*, 714–722.
- McLean, K., & Thorne, A. (2003). Late adolescents' self defining memories about relationships. *Developmental Psychology, 30*, 635–645.
- Nelson, K. (1998). *Language in cognitive development: The emergence of the mediated mind*. Cambridge, UK: Cambridge University Press.
- Nelson, K., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111*, 486–511.
- Pals, J. L. (2006). Constructing the "springboard effect": Causal connections, self-making, and growth within the life story. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.), *Identity and story: Creating self in narrative* (pp. 175–199). Washington, DC: American Psychological Association.
- Pasupathi, M., & Mansour, E. (2006). Adult age differences in autobiographical reasoning in narrative. *Developmental Psychology, 42*, 798–808.
- Pasupathi, M., Mansour, E., & Brubaker, J. R. (2007). Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development, 50*, 85–110.
- Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of looking at a child's narrative*. New York: Plenum.
- Pillemer, D. B., Wink, P., DiDonato, T. E., & Sanborn, R. L. (2003). Gender differences in autobiographical memory styles of older adults. *Memory, 11*, 525–532.
- Pratt, M. W., Arnold, M. L., Norris, J. E., & Filyer, R. (1999). Generativity and moral development as predictors of value socialization narratives for young persons across the adult life span: From lessons learned to stories shared. *Psychology and Aging, 14*, 414–426.
- Pratt, M. W., & Robins, S. L. (1991). That's the way it was: Age differences in the structure and quality of adults' personal narratives. *Discourse Processes, 14*, 73–85.
- Quigley, J. (2000). *The grammar of autobiography: A developmental account*. Mahwah, NJ: Erlbaum.
- Rubin, D. C., Rahlhal, T. A., & Poon, L. W. (1998). Things learned in early adulthood are remembered best. *Memory & Cognition, 26*, 3–1.
- Sanders, T. J. M., Spooren, W. P. M., & Noordman, L. G. M. (1992). Toward a taxonomy of coherence relations. *Discourse Processes, 15*, 1–35.
- Sanders, T. J. M., Spooren, W. P. M., & Noordman, L. G. M. (1993). Coherence relations in a cognitive theory of discourse representation. *Cognitive Linguistics, 4*, 93–133.
- Schütze, F. (1984). Kognitive Figuren des autobiographischen Stegreiferzählens [Cognitive structures of improvised personal narratives]. In M. Kohli & G. Robert (Eds.), *Biographie und soziale Wirklichkeit* (pp. 78–118). Stuttgart, Germany: Metzler.
- Schrauf, R. W., & Rubin, D. (2001). Effects of voluntary immigration on the distribution of autobiographical memories over the lifespan. *Applied Cognitive Psychology, 15*, S75–S88.
- Selman, R. (1980). *The development of social understanding*. New York: Academic Press.
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality, 72*, 437–460.
- Stern, D. N. (1989). Developmental prerequisites for the sense of a narrated self. In A. M. Cooper, O. F. Kernberg, & E. S. Person (Eds.), *Psychoanalysis: Toward the second century* (pp. 168–178). New Haven, CT: Yale University Press.
- Tewes, U. (1991). *Hamburg-Wechsler-Intelligenztest für Erwachsene—Revision [Hamburg-Wechsler Intelligence Test for Adults—Revision] (HAWIE-R)*. Bern, Switzerland: Huber.
- Tewes, U., Rossmann, P., & Schallberger, U. (1991). *Hamburg-Wechsler Intelligenztest für Kinder—III [Hamburg-Wechsler Intelligence Test for Children—III] (HAWIK-III)*. Bern, Switzerland: Huber.
- Thorne, A., McLean, K., & Lawrence, A. M. (2004). When remembering is not enough: Reflecting on self-defining memories in late adolescence. *Journal of Personality, 72*, 513–542.
- Tonkin, E. (1992). *Narrating our past: The social construction of oral history*. Cambridge, UK: Cambridge University Press.
- van den Broek, P., Lynch, J., & Naslund, J. (2003). The development of comprehension of main ideas in narratives: Evidence from the selection of titles. *Journal of Educational Psychology, 95*, 707–718.
- Wang, Q. (2004). The emergence of cultural self-constructs: Autobiographical memory and self-description in European American and Chinese children. *Developmental Psychology, 40*, 3–15.
- Zinnecker, J. (1985). Literarische und ästhetische Praxen in Jugendkultur und Jugendbiographie [Literary and aesthetic practices in youth culture and youth biography]. In A. Fischer, W. Fuchs, & J. Zinnecker (Eds.), *Jugendliche und Erwachsene 1985, Bd. 2* (pp. 143–348). Opladen, Germany: Leske & Budrich.

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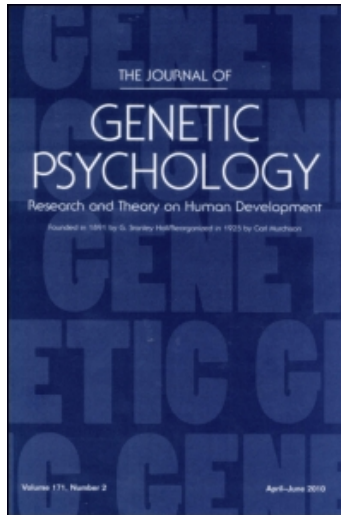
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### Narrative Means to Manage Responsibility in Life Narratives Across Adolescence

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## ARTICLES

# Narrative Means to Manage Responsibility in Life Narratives Across Adolescence

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**ABSTRACT.** Adolescence is a passage from dependence to adult responsibility. Alongside identity development, social-cognitive development, and the ability to construct a life story, adolescents become increasingly aware of both their potential responsibility in an expanded sphere of life and of complex, contextual influences on their lives. This was partially tested in a cross-sectional study, both in terms of linguistic means and content expressed in life narratives. Indicators were defined for narrative agency, grading of responsibility, serendipity, and turning points, and tested for age differences in relative frequencies in 102 life narratives from age groups of 8, 12, 16, and 20 years, balanced for gender. Narrative grading of responsibility, serendipity, and turning points increased throughout adolescence. The relative frequency of narrative agency, in contrast, remained constant across age groups. Results are interpreted in the context of adolescent development of narrative identity.

**Keywords:** adolescence, narrative grading of responsibility, narrative identity development, narrative responsibility

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Adolescence is the transitional phase par excellence. The former child transforms to develop an adult identity. One of the most important criteria for successful transition from adolescence to adulthood is accepting responsibility for one's self (Arnett, 1997).

In our study we were interested in how narrative expression of responsibility changes in life narratives from late childhood to early adulthood. We based our study on a number of assumptions and expectations about narrative means. We

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expected adolescent identity development to cause changes in the expression of agency and how this expression might be graded or denied. We assumed that grading of responsibility is not present in childhood because children do not have the same ability to exert control over their environment and cognitive capacity as adolescents do. As the ability to control the environment increases, so too does the awareness of responsibility. We assumed that if children have no need to present themselves as responsible individuals they also have no need to graduate responsibility. As adolescent development progresses, a life narrative requires more shouldering of responsibility, which then motivates compensatory efforts to limit responsibility. This development may be supported by social-cognitive development that fosters decentration and an increasing awareness of contextual influences on individuals' actions that limit the individuals' personal responsibility. Therefore, we expected that across adolescence life narratives contain an increasing proportion of agentic expressions implying responsibility and of expressions that graduate and limit responsibility. In addition, we also expected turning points and serendipitous events to be mentioned more frequently with age.

### *Narrative Identity and Responsibility in Adolescence*

Three developments contribute to the expansion of adolescent scope of action and the correlated sense of potential responsibility. These are (a) the gradual increase in autonomy and responsibility, with a delay of the ultimate attribution of adult responsibility in a psychosocial moratorium; (b) the development of the life story; and (c) social-cognitive development.

### *Autonomy, Responsibility, and Identity Exploration*

Two central developmental tasks of adolescence are to develop an adult psychosocial identity and to take on adult responsibilities. The resulting changes take place gradually, beginning with the preadolescent's increasing freedom to decide such things as how they look, what their hobbies are, who their friends are, and how and where they spend their time (Wiesner & Silbereisen, 1996). Corresponding to this increase in autonomy, there is a relative increase in such responsibilities as body care, cleaning one's bedroom, and accepting the consequences of such activities as using legal drugs (e.g., alcohol, cigarettes) and driving potentially dangerous vehicles (Rogoff, 1990). Legal responsibility is granted and imposed at age 18, but the final adult responsibilities, such as becoming economically self-sufficient, choosing a partner, and becoming a parent, may be delayed for many more years.

### *Development of the Life Story*

The life story is the best-suited format for ego identity, as it offers the possibility to create continuity across change (Erikson, 1968). Therefore Ricoeur (1992) called diachronic identity 'narrative identity' (cf. Singer, 2004). The life



story has been defined as one of three levels at which personality can be described (McAdams, 1995), allowing the fullest description of an individual (McAdams, 1985).

The life story not only enables but also requires the stringing together of heterogeneous event strands into a globally-coherent life narrative. The ability to create this global coherence develops only in adolescence (Bohn & Berntsen, 2008; Habermas & Bluck, 2000; Habermas & de Silveira, 2008; Habermas & Paha, 2001).

Listeners expect a life narrative to detail how the narrator has tried to lead a good and moral life, trying to give direction to life based on values. Narrators are expected to account for how they have lived their lives (Bieri, 1986). This expectation is defeated in neurotic life stories, which are marked by narrative maneuvers that reduce agency in order to minimize responsibility for actions and reactions (Schafer, 1983).

We argue that acquiring the ability to cast identity diachronically as a life story, and the need to do so with a highly individual choice of identities, or ego identity, engenders an increased awareness of the expanding range of an individual's potential as an agent. This expansion stretches both into the future and the past, and so increases the need to account not only for specific concrete actions, but also for long-term consequences of actions as well as for inaction. Thus, we argue that there is a parallel development in adolescence of an increase in agency alongside an increased need to deal with personal responsibility.

### *Social-Cognitive Development*

The life story develops as part of adolescent social-cognitive development. With the transition from childhood to young adulthood, there is a qualitative change in cognitive capacities. Along with the arrival of formal operations (Piaget & Inhelder, 1977), adolescents develop a more decentered, contextualized understanding in terms of temporal and social context. Time perspective broadens to include a mastery of calendar time (Friedman, 1992), life time (Habermas & de Silveira, 2008; Habermas, Ehlert-Lerche, & de Silveira, 2009; Pinquart & Silbereisen, 2000), and historical time (Seixas, 1996; Wineburg, 1996). The temporal frame for intentions expands to develop into strategic thinking (Larson & Hansen, 2005). Also the understanding of the influence of societal and economic circumstance on the development and actions of individuals expands (Furnham & Stacey, 1991).

In summary, we expect a double effect of a temporally and socially expanded view on both the consequences of an individual's actions and on the contextual influences bearing on an individual's actions and their consequences, alongside the increasing autonomy and the particular accountability that life stories demand. They expand the adolescent's sense of and responsibility for their agency and bring an understanding of the contextual factors limiting an individual's autonomy.

### *Adolescent Construction of Responsible Life Narratives*

We approach the life story as a linguistic product (i.e., as life narratives). Language reflects the narrator's struggle with responsibility by accounting for actions and supplying reasons for such actions (Quigley, 2000). We call the *autobiographical scope for action* the opportunity to either narrate agentically (i.e., in an active and responsible way), or in a distanced way, by grading or denying personal responsibility. Expressions of personal agency and responsibility are, we assume, essential for autobiographical self-presentation in adolescent development, reflecting newfound awareness of responsibility for and the moral dimension of an individual's life narratives (cf. Bieri, 1986; Linde, 1993; McAdams, 1999; Quigley, 2000; Schafer, 1983). Children do not yet need to show how they have lived their life and explain how they became themselves, but adolescents do (Habermas & Bluck, 2000; McAdams, 1994).

We analyze four groups of expressions of agency and responsibility in life narratives to test the hypothesis that they are used increasingly in adolescence. First, there are straightforward linguistic expressions of personal agency. Second, there is a large set of linguistic means of grading and negating agency and responsibility (*narrative grading of responsibility*). Third, events may be attributed to chance circumstances instead of to the narrators' agency (*narrative serendipity*), a special form of narrative grading of responsibility where chance is substituted for responsibility. Finally, *turning points* reflect points in life at which narrators have given their life a new direction. Narrative turning points serve two functions: they reflect an awareness of responsibility through insight into important personal life changes, and they emphasize the mobilization of agency (cf. Schultz, 2001).

We expect narrative serendipity to correlate positively with grading of responsibility, because it too represents a narrative strategy to reduce responsibility. We also expect narrative turning points to correlate positively with grading of responsibility because they highlight issues of responsibility. Narrative agency and narrative grading of responsibility reflect two sides of a coin, concerning different poles of scope for action, action or nonaction. This opposition should be reflected in the results. Because we expect an increase in all of the four variables with age they should correlate positively with each other, but if the variables are controlled for age we expect a negative correlation between the two opposite variables narrative agency and narrative grading of responsibility.

We first address the concept and development of agency in psychology and psycholinguistics. Then we introduce the means used for assessing the four variables and review their respective development in adolescence.

#### *Narrative Agency*

In autobiographical narrative the responsible self is positioned against the passive self that presents itself as a subject to fate, chance, or others (Schütze,

1984). Likewise, Plunkett (2001) described agency as the presence of explicit narrative strategies for reaching a goal in life. Her study of the career narratives of 24 college women showed that both agency and serendipity are important because they help individuals cope with uncertainty and doubt.

The development of narrative agency in autobiographical narratives has been studied only in childhood and preadolescence. Quigley (2000) studied agency linguistically in freely narrated life narratives of 36 children aged 5, 8, and 12 years. The study showed an increase with age in self-positioning as agents by the use of verbs of control and intention. In a similar vein, our first hypothesis is that the expression of agency in life narratives increases between late childhood and early adulthood.

### *Narrative Grading and Negating of Agency and Responsibility*

Several linguistic devices express shades of diminished agency. Peterson and McCabe (1983) termed passively-narrated narratives as *victim stories*. They consist of reactive sequences in which individuals simply react to events without expressly pursuing goals. Likewise, Capps and Ochs (1995) proposed a grammar of helplessness based on their examination of narratives of an agoraphobic woman. It is characterized by grammatical forms that imply failure to reach a goal, vulnerability, and diminished coping and control skills. Diminished agency occurs in descriptions where the self is presented as someone who does not deliberately initiate or cause actions, through the use of grammatical constructions that place the person in the role of the experiencing or affected object. For instance, nominalization (e.g., there was the alcoholism) of experiences and feeling omits the experiencing person. Kurri and Wahlström (2007) adopted the term *agentless talk* to refer to the use of impersonal constructions such as the use of *one* or *you*. These devices are used as part of a strategy that serves to escape full personal responsibility and personal blame and helps to save face. Yamamoto (2006) emphasized that impersonalization is the preferred linguistic strategy for masking agency.

Some studies have indicated an increase in the use of statements and forms of diminished agency between childhood and adulthood. Ely, MacGibbon, and Hadge (2000) coded instances in which protagonists were depicted as passive in 96 personal autobiographical narratives of children aged between 4 and 9 years. Passivity included the four subcategories physical (illness, injuries) or psychological *weakness*, *negative impact* (description of an individual being acted upon), *inaction*, and *negative prestige*. The frequency with which children mentioned their own passivity did not vary with age, but they increasingly described others as passive. This could indicate that preadolescents' decentration helps them understand the limits of agency as a general phenomenon.

The ability to use the passive voice (downgrading the agent), which is common in scientific writing and acquired in school, gradually increases throughout adolescence (Nippold, 2004). Nominalized grammatical forms are also acquired

rather late. In a study by Berman and Slobin (1994), they were absent in the narratives of preschool children, appeared occasionally in those of 9–10-year-olds, and were well represented in the narratives of adults. Reilly, Zamora, and McGivern (2005) also found, in a study of 80 English-speaking children, adolescents, and adults, that the use and complexity of passive constructions increased significantly with age.

Thus, we expect two factors to be relevant for the development of narrative grading and negating of agency. These are the increasing of an awareness of external circumstances of life events that limit an individual's control possibilities and related potential responsibility and the ensuing increase in the use of complex passive constructions. This leads to our second hypothesis, that narrative grading of responsibility increases across adolescence.

### *Serendipity*

Instances of serendipity in narratives are characterized by the absence of intentionality and strategy (Plunkett, 2001). The affective tone of the narrative tends to be positive, although ambivalence is possible. The narrator refers to an event as happening by chance or accident. Personal goals, interests, and talents of the narrator may remain concealed. Plunkett pointed out that late adolescence and early adulthood are especially suited for experiences of serendipity because this phase of identity exploration (Erikson, 1968), or *novice phase* (Levinson, 1996), is full of possibilities and uncertainty. It is a creative way of expressing and tolerating the complexity of certain life phases, together with the psychological risks and strains that accompany them (Plunkett). The use of serendipity requires awareness of personal responsibility for the life narrative so that the narrator considers it as appropriate to reduce agency. We expect that children do not use serendipity because they have no comparable need to justify their agency.

We expect serendipity to be prominent in the transitional phase of adolescence, prolonging the commitment to adult responsibilities. Our third hypothesis is that narrative serendipity increases in life narratives across adolescence.

### *Turning Points*

Turning points allow narrators to substantially change their assessment of their life (McAdams, 1993), frequently from failure to success (Young, Friesen, & Borycki, 1994). Often such turning points are preceded by a dramatic climate, and narrators are suddenly once again able to view their life optimistically and recognize possibilities for dealing with the situation at hand. However, the opposite changes, from positive to negative, do also constitute turning points (Thomsen & Jensen, 2007). Some studies on turning points in life additionally addressed aspects of an individual's being in control of his or her own life or the possible mobilization of agency due to the experience of a loss of control (Schultz, 2001; Schütze, 1984).

According to McLean (2008), the challenge of integrating change into personality is of particular significance in the period of adolescence. Self-defining memories (Singer, 1995) can also be turning points. They contain an insight and further help to retrospectively classify and interpret certain aspects of the world (cf. McLean & Pratt, 2006; McLean & Thorne, 2003; Thorne, McLean, & Lawrence, 2004). Thus, our fourth hypothesis is that turning points increase across adolescence.

## Method

### *Participants*

A total of 102 participants were distributed across four age groups (8, 12, 16, and 20 years). The group of 8-year-olds comprised 25 participants ( $M$  age = 8.70 years,  $SD$  = 0.24 years), with 12 girls and 13 boys. The group of 12-year-olds comprised 27 participants ( $M$  age = 12.50 years,  $SD$  = 0.37 years), with 14 girls and 13 boys. The group of 16-year-olds comprised 25 participants ( $M$  age = 16.62 years,  $SD$  = 0.45 years), with 12 girls and 13 boys, and the group of 20-year-olds comprised 25 participants ( $M$  age = 20.57 years,  $SD$  = 0.49 years), with 13 young women and 12 young men. Six additional participants, belonging to all age groups, were excluded from the study due either to technical problems or a reluctance to narrate.

Following a four-year attendance at elementary school, students in Germany attend different types of school according to their level of academic performance. The group of 8-year-olds comprised high-performance students from an elementary school in Frankfurt am Main. According to teacher assessments, these children demonstrated a level of performance qualifying them for the highest form of German school education (Gymnasium). The groups of 12- and 16-year-olds comprised students from a Gymnasium in Frankfurt. This particular Gymnasium was selected on account of its good fit with the heterogeneous social background of the elementary school participants. The group of 20-year-olds comprised former students from this Gymnasium. Recruitment of the three youngest age groups took place via the children's parents who were informed about the study at parents' meetings. Parents subsequently informed their children about the study and, where the children were willing to participate, returned their written, informed consent by mail. The addresses of former students were obtained from the respective school yearbook. These former students were invited to participate by mail.

Across all age groups, a large minority of participants (38%) had at least one parent who had immigrated from Eastern Asia, the United States, Southern and Eastern Europe, or the Middle East. All participants spoke German fluently. Students received 20€ each for their participation. The money was paid into a class fund for the 8-year-olds, and the 12- and 16-year-olds each received 15€ while the remaining 5€ were contributed to a school social project.

### *Procedure*

Data were collected in two interviews separated by a two-week interval in the context of a larger study of the development of life narratives (Habermas & de Silveira, 2008). All participants were interviewed by one of three female interviewers. The distribution of interviewers across participants and measurement times was balanced. Participants narrated their life in each interview. Interviews lasted between 45–60 min. Here, only narratives from the first measurement time were used. Additionally, measures of fluid and crystallized intelligence were used to control intelligence within age groups.

### *Materials*

*Intelligence.* Fluid intelligence was measured using the digit-symbol substitution subtest, and crystallized intelligence was measured using the vocabulary subtest of the German version of the Wechsler Intelligence Scale for Children–Revised (Tewes, 1991) or, for the 20-year-olds, with the German version of the Wechsler Adult Intelligence Scales (Tewes, Rossmann, & Schallberger, 1991). Because both IQ values were higher in the group of 8-year-olds than in the other three age groups, IQs were z-standardized separately for each age group.

*Life narratives.* Participants were first instructed to note their seven most important specific autobiographical memories on cards, then arrange them in chronological order, and to subsequently weave these into their life narratives. This served two purposes, to ensure that participants did not simply report their experiences in a summarized manner, and to help provide a memory support for the youngest participants (cf. Habermas & de Silveira, 2008).

Instructions were as follows:

First, I would like to ask you to think about the seven most important events in your life. These may be events which have just happened, or they may have happened a long time ago. Then write down the seven most important memories on these seven cards. Please write down only memories of very specific events. . . . Now arrange these cards in the order in which they happened on the table in front of you.

Participants were then required to narrate their life for 15 min, as follows:

Next, I would like you to tell me a story about your whole life. Please think about all the events which have happened in your life since the time when you were born. Please include the seven events in your story. For example, you can tell me about the most important events in your life and the biggest changes. You can tell me things which someone like me who doesn't know you might like to know about you. You can also tell me if your experience is still important to you today and if it has influenced you and the kind of person you are today. That is your

task. You have about 15 minutes to tell your story. I will not interrupt you. After 10 minutes I will tell you that you have five minutes left. There are no right or wrong answers.

Participants were asked to repeat the instruction to ensure that they had understood their task. Interviewers did not interrupt the narrative, but rather encouraged participants to continue whenever appropriate. Following their life narrative, participants dated all seven most important memories.

*Transcription, segmentation into propositions, and interrater reliability.* Life narratives were tape recorded and transcribed verbatim. The text was divided into propositions. Mere repetitions and incomplete sentences that were not understandable were not counted as propositions. Two coders independently divided 20 life narratives balanced for gender, age, and measurement occasion into propositions. Coders agreed on 98.6% of the propositions. Both coders each took half of the remaining life narratives and divided them into propositions.

### Coding

*Coding procedure.* The coding manual (de Silveira, 2005) was applied to the 102 life narratives produced in the first session. The manual defines linguistic markers of narrative agency and narrative grading of responsibility, as well as more content-based codes for narrative serendipity and narrative turning points. Each proposition was examined regarding the presence or absence of each code. The absolute frequency of each code was then divided by the number of propositions, so that hypotheses would be tested with the frequencies of codes relative to the overall number of propositions. Therefore variables were coded independently of each other, thus allowing the multiple coding of a single proposition.

*Narrative agency.* All statements that contained a self-initiated and self-implemented action by the narrator, and in which the acting *I* was explicitly given as the syntactic subject (e.g., I gave her a call, I thought he was right), were coded as expressing narrative agency. Only those verb phrases were coded which explicitly stated an activity, for example *go*, *say*, or *do*, but also cognitive actions such as *think*. References to *me* and *myself* were considered to be as equally representative of agency as *I*. However, to be coded as an example of narrative agency, the context of the statement had to confirm that the agentic form also expressed an agentic meaning.

*Narrative grading of responsibility.* Statements were coded as instances of narrative grading of responsibility if they concerned the narrator but actively avoided explicitly naming him or her as the agent. Statements concerning the interview situation or circumstances in which the narrator definitely was not able to act in any other way, such as in the case of an accident or illness, were not coded. There

**TABLE 1. Eight Subcodes of Narrative Grading of Responsibility**

Name	Definition and example
1 <i>Abstraction</i>	Passive forms ( <i>to be</i> with past participle) if it did not name the narrator as the syntactic subject: <i>The letters were written at home.</i>
2 <i>Impersonalization</i>	<i>One</i> or <i>you</i> when used for syntactic subject: <i>One needs this.</i>
3 <i>Necessity</i>	Modal verbs of necessity ( <i>must, shall</i> ) or possibility ( <i>can, may</i> ). External authority determines necessity ( <i>I must do it now</i> ) or possibility ( <i>I can go now</i> ) of an action (cf. Capps & Ochs, 1995: <i>I had to put up with the situation.</i> ).
4 <i>Recipient</i>	Narrator is the passive recipient of an action, but is directly referred to, indicated by verbs <i>have</i> (in the sense of <i>to come by</i> ), <i>get</i> , <i>receive</i> , and <i>need</i> (e.g., <i>I need someone to help me</i> ): <i>I then came to participate in sports.</i>
5 <i>Passive</i>	Exclusively German passive reflexive constructions and verbal substantives: <i>Mein Wunsch erfüllt sich; Meine Fähigkeiten sind ausbaufähig.</i>
6 <i>Externalization</i>	(a) Influence by powerful others (cf. Rotter, 1966): <i>Then my friend took me to the club! and then I was in the club too.</i> (b) Nominalizations (turning a verb or an adjective into a noun): <i>And then the first experiences came</i> (cf. Capps & Bonanno, 2000). (c) Nominalization of emotions (cf. Capps & Ochs, 1995): <i>The feeling of relief was immense; Tears were shed.</i>
7 <i>Restriction</i>	(a) Uncertainty: <i>I don't know! why I did that;</i> (b) Attempts as futile: <i>I try! to get rid of these terrible feelings;</i> (c) Emotional helplessness: <i>I feel helpless;</i> (d) Negation: <i>There is no way I will ever manage that</i> (cf. Capps & Ochs, 1995).
8 <i>Generalization</i>	Generalized experiences: <i>That's always the case in puberty.</i>

were a total of eight different codes, the sum of which made up the variable narrative grading of responsibility. The reason for having so many different codes was that this code was defined negatively by assembling means that all have the same effect of grading or diminishing agency. The eight codes are represented in Table 1

*Narrative serendipity*. This code included all statements about events happening to the narrator by chance (Plunkett, 2001). It was only assigned if these events had a



positive, neutral, or ambivalent affective tinge, but not if they were negative events. The local context of a statement was taken into account. Only events of the past, excluding hypothetical and future events, were coded. Narrative serendipity was coded only if an event was described as happening by chance, although it could have been described in a different way as in “Then I started to study chemistry/, I don’t know why/, but I really enjoy it anyhow.” Events portrayed as having occurred randomly or as a stroke of luck were also coded as serendipitous if a dilution of agency was indicated by colloquial expressions, such as “having just managed something by a whisker.”

*Narrative turning points.* This code regarded captured events which led to enduring and personally relevant change in the narrator’s life. Turning points are characterized by a transformation in meaning, intention, or direction of the narrator’s life circumstances, which in turn induces insight into the significance of the transformation. This reorientation or reinterpretation by the narrator pertains to both the self and a transformation in perceived identity (Bruner, 1999). A coding example for narrative turning points is the following:

Then we had Mr. Mason/, he was really good and dedicated/, he taught me so much/ and then I got much better at school (—) / and when I came into fifth grade/ I worked my way up/, I did more/put in more effort/, so that I got better grades/ and that was a kind of U-turn.

*Interrater reliabilities.* The interrater reliabilities as measured by Cohen’s kappa were assessed on the basis of 20 life stories coded independently by two coders. Reliability, representing substantial to high agreement, was  $\kappa = .90$  for narrative agency and  $\kappa = .89, .97, .93, .81, .87, .92, .95,$  and  $.85$  for each of the eight narrative grading of responsibility codes, respectively. Reliability for both narrative serendipity and narrative turning points was  $\kappa = .76$ . The remaining transcripts were coded by Cebèle (de Silveira).

## Results

An analysis of the relative frequencies of the dependent variables revealed heterogeneous variances. Therefore a conservative significance level of  $p < .01$  was applied for all statistical tests. The eight codes used for narrative grading of responsibility were summed up to form a summary score. Two-factorial 4 (Age)  $\times$  2 (Gender) multivariate analyses of variance (MANOVAs) and additional univariate analyses (ANOVAs) were computed. Gender was included because it was not equally distributed across age groups. Fluid and crystallized intelligence were included as covariates in multivariate analyses of covariance (MANCOVAs). Due to a lack of significance across all analyses, covariate results are not presented. Individual post hoc comparisons of age differences in the eight narrative grading of responsibility codes were performed using Tamhane’s T2 tests. Results of

**TABLE 2. Means and Standard Deviations of Relative Frequencies of Narrative Agency, Grading of Responsibility (with Subcodes 1–8), Serendipity, and Turning Points (Percentage of Propositions)**

Variable	8 years ( <i>n</i> = 25)		12 years ( <i>n</i> = 27)		16 years ( <i>n</i> = 25)		20 years ( <i>n</i> = 25)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Agency	10.21 <sup>a</sup>	4.56	9.72 <sup>a</sup>	4.47	9.35 <sup>a</sup>	4.02	10.41 <sup>a</sup>	3.01
Grade	4.14 <sup>a</sup>	3.06	8.52 <sup>b</sup>	4.76	12.13 <sup>b,c</sup>	6.31	17.96 <sup>c</sup>	11.31
Code 1	0.00	0.00	0.01	0.09	0.01	0.08	0.12	0.33
Code 2	0.45	0.83	0.71	1.54	1.37	2.94	4.86	5.89
Code 3	0.86	1.27	0.65	0.67	0.90	1.04	1.61	1.20
Code 4	0.26	0.56	0.28	0.44	0.25	0.31	0.30	0.40
Code 5	0.00	0.00	0.00	0.00	0.04	0.12	0.51	1.20
Code 6	1.58	1.87	3.76	3.73	4.99	3.71	6.25	4.60
Code 7	0.86	0.92	3.01	3.03	4.21	2.77	3.45	2.59
Code 8	0.08	0.31	0.06	0.21	0.32	0.56	0.75	0.79
Codes 1, 2, 3, 5	1.84 <sup>a</sup>	2.60	2.88 <sup>a</sup>	4.03	4.84 <sup>a</sup>	4.50	19.72 <sup>b</sup>	19.88
Codes 6, 7, 8	2.53 <sup>a</sup>	2.14	6.84 <sup>b</sup>	4.31	9.52 <sup>b</sup>	4.93	10.54 <sup>b</sup>	6.72
Serendipity	0.54 <sup>a</sup>	0.74	1.62 <sup>a</sup>	1.58	3.41 <sup>b</sup>	1.98	3.45 <sup>b</sup>	1.38
Turning points	0.06 <sup>a</sup>	0.25	0.34 <sup>a,b</sup>	0.54	0.91 <sup>b,c</sup>	1.15	1.08 <sup>c</sup>	0.71

Note. Means in the same row that do not share the same superscript are significantly different at  $p < .01$  in the Tamhane's T2 test post hoc comparison.

the ANOVAs are presented in Table 2. Means and standard deviations of the four dependent variables and the codes forming the variable narrative grading of responsibility are presented in Table 3, as well as the results of the Tamhane's T2 tests. Spearman's rank correlation coefficients (one-tailed) were used to calculate

**TABLE 3. Univariate Effects of Age for Narrative Agency, Grading of Responsibility, Serendipity, and Turning Points**

Variable	<i>df</i>	<i>F</i>	$\eta^2$
Narrative agency	3, 92	0.345	.011
Narrative grading of responsibility	3, 92	16.734***	.353
Narrative serendipity	3, 92	23.847***	.437
Narrative turning points	3, 92	10.041***	.247

\*\*\* $p < .001$ .

zero-order correlations between the four dependent variables. Partial correlations (one-tailed) controlling for age were used to calculate correlations between the four dependent variables because each of them were expected to correlate with age.

### *Correlations*

With age partialled out, we expected a negative correlation between narrative agency and narrative responsibility and a positive correlation of the latter, with serendipity and turning points. Zero-order correlations between the four dependent variables revealed significant correlations of narrative grading of responsibility with serendipity ( $r_s = .48, p < .05$ ) and with turning points ( $r_s = .53, p < .05$ ), which in turn were correlated with each other ( $r_s = .46, p < .05$ ). Agency correlated neither with narrative grading of responsibility ( $r_s = -.11, p > .05$ ) nor with turning points ( $r_s = .04, p > .05$ ). With age partialled out, the expected negative correlation between agency and narrative grading of responsibility was small but significant ( $pr = -.19, p < .05$ ), and the positive correlation of narrative grading of responsibility with turning points was larger ( $pr = .30, p < .01$ ). No significant partial correlations were found for the remaining variables. Exploration of the partial correlations with the eight subcodes for narrative grading of responsibility revealed its partial correlation with narrative turning points was due to the subcodes impersonalization (code 2;  $pr = .28, p < .01$ ) and externalization (code 6;  $pr = .26, p < .01$ ). The small negative partial correlation between narrative grading of responsibility and narrative agency was due to the subcode generalization (code 8;  $pr = -.17, p < .05$ ). Partially fulfilling our expectations, narrative grading of responsibility correlated moderately and negatively with narrative agency and positively with narrative turning points with age partialled out, whereas it failed to correlate with serendipity.

### *Effects of Age and Gender*

Because of the zero-order correlations between three of the four dependent variables, an analysis of covariance (ANCOVA) was used to test the effects of age and gender on narrative agency and a MANCOVA was used for the three remaining dependent variables. Results for narrative agency revealed no significant effect of age (see Table 3) or gender,  $F(1, 92) = 0.058, p = .810$ , partial  $\eta^2 = .001$ , and no significant interaction,  $F(3, 92) = 0.119, p = .948$ , partial  $\eta^2 = .004$ . A MANCOVA with the three remaining dependent variables revealed highly significant multivariate effects of age, Pillais'  $F(33, 252) = 3.151, p = .000$ , partial  $\eta^2 = .292$ . Neither gender, Pillais'  $F(11, 82) = 2.122, p = .027$ , partial  $\eta^2 = .222$ , nor the interaction of gender and age were significant at our conservative level of significance of  $p < .01$ , Pillais'  $F(33, 252) = 1.152, p = .269$ , partial  $\eta^2 = .131$ . Univariate analyses revealed significant effects of age for all three variables, narrative grading of responsibility, narrative serendipity, and narrative

turning points (see Table 3). Thus, although narrative agency did not vary with age, the relative frequencies of narrative grading of responsibility, narrative serendipity, and narrative turning points were consistently higher in older ages.

For exploratory purposes, univariate analyses were also performed on all eight subcodes of narrative grading of responsibility (see Table 1). These analyses revealed significant effects of age for impersonalization (code 2),  $F(3, 92) = 9.388$ ,  $p = .000$ , partial  $\eta^2 = .234$ ; necessity (code 3),  $F(3, 92) = 3.992$ ,  $p = .010$ , partial  $\eta^2 = .115$ ; passive (code 5),  $F(3, 92) = 4.300$ ,  $p = .007$ , partial  $\eta^2 = .123$ ; externalization (code 6),  $F(3, 92) = 7.594$ ,  $p = .000$ , partial  $\eta^2 = .198$ ; restriction (code 7),  $F(3, 92) = 8.289$ ,  $p = .000$ , partial  $\eta^2 = .213$ ; and generalization (code 8),  $F(3, 92) = 9.473$ ,  $p = .000$ , partial  $\eta^2 = .236$ . Whereas two of the eight subcodes for narrative grading of responsibility (codes 1 and 4) did not show any significant age effects, the relative frequencies of most of the subcodes were significantly higher in older ages. An inspection of the means and standard deviations of the subcodes (see Table 2) reveals that the exclusively grammatical passive codes (codes 1 and 5) were absent in the younger age groups. In contrast, code 4 (recipient) did not vary with age. For the purpose of analyzing the relationship between both syntactic and content analytic subcodes of narrative grading of responsibility and age, we added the grammatical subcodes 1, 2, 3, and 5 to a syntactic form of narrative grading of responsibility and subcodes 6, 7, and 8 to a content-based form of narrative grading of responsibility (code 4 was left out because of its indifference) and ran a series of ANOVAs. Means and standard deviations are presented in Table 2. Significant univariate effects of age were found for the syntactic forms,  $F(3, 98) = 16.317$ ,  $p = .000$ , partial  $\eta^2 = .333$ , as well as for the content-based forms,  $F(3, 98) = 13.864$ ,  $p = .000$ , partial  $\eta^2 = .298$ . In post hoc Tamhane's T2 tests (see Table 2), the syntactic form of narrative grading of responsibility differed significantly between age group 20 and age groups 8 ( $p = .001$ ), 12 ( $p = .002$ ), and 16 ( $p = .007$ ). In contrast, the content-based form of narrative grading of responsibility differed between age 8 and ages 12 ( $p = .000$ ), 16 ( $p = .000$ ), and 20 ( $p = .000$ ). Thus, although the syntactic form increased most between the two oldest groups, the content-based form increased most between the two youngest groups.

## Discussion

Our cross-sectional study of narrative means to manage responsibility in adolescent development revealed an increase in three of the four variables. As expected, narrative grading of responsibility continuously increased across the entire age range. On the basis of the data of this study, it remains open as to what is the major underlying factor for this development. Language development may contribute through the acquisition of more complex grammatical forms, as may social-cognitive development through the reduction of an egocentric perspective and the development of a more realistic view of situational factors, as well as may

the increase in potential responsibility. Age effects were also found for most of the eight subcodes of narrative grading of responsibility. The content-based passive codes increased in the younger age ranges, whereas the syntactic passive codes increased only in the oldest age range.

As expected, the relative frequency of narrative turning points increased through adolescence into young adulthood. This result is in accordance with expectations that turning points accompany identity-finding processes that require an awareness of situations of change and an integration of these into an individual's life story (cf. McAdams, 1985, 1999). The correlation between frequency of turning points and narrative grading of responsibility might indicate that a distanced use of speech can be used to deal with the emotions that are related to turning points. The use of grading of responsibility may help to deal with emotions which naturally accompany autobiographical narration and which must be integrated in some form or another. If narrative integration is not yet possible, forms of speech that evade personal initiative by attributing to a powerful third party or by reducing the self to a passive entity may serve to deal with emotions and to integrate them into the life story.

As expected, the relative frequency of narrative serendipity increased throughout adolescence. The increased relative frequency of turning points and serendipity might be construed as resulting from a real increase in the number of such experiences, simply because adolescents have lived more years than have children. But in our view it is not a question of what individuals have experienced but rather of which experiences they deem to be so personally significant that they include them in their life narrative. In other words, if participants have experienced happy chance events this does not by necessity imply that they also use a serendipitous narrative style to explain their life events. Likewise, if participants have experienced turning points, they need not mention them in a life narrative. Rather we assume that if adolescents construct life events as serendipitous events or turning points in their lives, they are managing responsibility in their life.

Contrary to our expectations, the relative frequency of agentic formulations did not increase through adolescence. A reinspection of our operationalization of narrative agency as statements of *I* plus verb suggests that this operationalization may not sufficiently account for the complexity of the verb system. Future researchers should differentiate better kinds of narrative agency according to whether they reflect either cognitive (e.g., thinking) or concrete actions (e.g., going). A further refinement of the operationalization of narrative agency could be based on a hierarchy of verbs in terms of the degree of agency they involve (cf. Quigley, 2000, 2001; Schlesinger, 1995). Some evidence suggests that older adolescents and young adults use more verbs of epistemic modality such as *to guess* or *to suppose*, which grade the degree of certainty with which the truth of a statement is claimed, and verbs which refer to perception and control, such as *I noticed*, *I recognized*, or *I observed*, whereas children express more concrete action aspects in their use of verbs such as *to climb* or *to ride* (cf. Quigley, 2001).

Still, the small negative age-controlled correlation between narrative grading of responsibility and narrative agency supports the expected polar-opposite characters assumed to hold between the two variables within each age group.

If the youngest used less grading of responsibility, and mentioned less turning points and serendipity, what did they use or mention more frequently than the older participants, besides talking in concrete action sentences (*I* plus verb; narrative agency)? An a posteriori inspection of the life narratives of the 8-year-olds revealed that they often narrate their life through *we* sentences and an enumeration of events. What follows is an example of this:

then we had no classes / and then we were offended by some boys / and then we had to hide / and then on Friday, school closed already at two o' clock / and there was a girl called Nadja /, with whom I was always fighting / but then we were best friends / and we went together to Easter holidays then / but before I got fishes / and we went to a store my dad and me / and bought an aquarium.

These exemplary sentences contain no gradation of responsibility and no turning points. Events are enumerated without being linked to each other. Thus a narrator who is responsible for a coherent account of the life is absent. The children merely list life events without stating intentions or a sense of retrospective responsibility. Children seem to play an active role in their lives but they are not authors of their life narrative.

A factor that might mediate the influence of age on grading of responsibility, turning points, and serendipity is the kinds of events that are selected to be included in life narratives. For example, when asked to generate important events, children may understand the meaning of "important events" differently from young adults: Children might think of the most exciting events they have experienced, which might lead to more agency oriented sentences like, *I attended a surf course*. Twenty year olds, in contrast, might understand the question to be about events that influenced their life course or helped to define their identity, which may invite the use of verbs of epistemic modality, such as *to guess*, and of verbs that refer to perception and control as mentioned above. Thus in future studies the different types of events narrated should be identified.

A major limitation of the present study is the cross-sectional design and a relatively homogeneous sample with respect to cultural identity, educational level, and German language and therefore exclusively German grammatical forms (e.g., code 5). The age differences in grading of responsibility need to be studied with other social groups to test whether they also hold in groups with less formal education and with different cultural norms and different linguistic forms.

Another limitation of this study is that although we did describe age variations in the use of grading of responsibility, turning points, and serendipity, we did not measure possible underlying factors. Future researchers should measure not only intelligence, but also the acquisition of complex linguistic abilities, the

development of the understanding of social-contextual influences on individual lives, and granted autonomy and self-assessed responsibility.

Other limitations are the use of interviews and the focus on autobiographies. Providing an autobiographical narrative to a stranger in a face-to-face interview raises issues of self-presentation. It is not clear if life narratives that are spoken into a tape recorder would raise less issues of responsibility, and therefore also evoke less grading of responsibility. However the presence of anonymous others, even if only symbolized by a mirror or a tape recorder, has been found to increase the pressure to conform to norms and might therefore even increase the salience of responsibility issues. We did not use the relative privacy of written life narratives because we were interested in oral narratives, which are usually more spontaneous and less controlled than written narratives. We were specifically interested in self-presentational aspects because our hypothesis of an awareness of responsibility for an individual's life story in adolescence does have an intrinsic self-representational quality. Therefore, an interview was the most adequate method of research. For the same reasons we chose to elicit autobiographical life narratives rather than biographical life narratives of someone else's life (e.g. of the life of a friend), which again raises self-presentational issues. Still, the differences between social and solitary, oral and written, and autobiographical and biographical life narratives in terms of narrative grading of responsibility are interesting topics of research for future studies. Underlying factors might influence life narratives differently under these circumstances. Linguistic development and the development of the understanding of the influence of social context might, for example, equally influence biographical and autobiographical life narratives, whereas an expanding sense of personal responsibility may influence more the narrative of an individual's own life.

The successful identification of narrative forms of grading of responsibility could be extended to study not only the normative development of their use, but also individual differences. In resilience research, adolescents with different psychiatric disturbances (cf. Hauser, Allen, & Golden, 2006; see also Rönka, Oravala, & Pulkkinen, 2002) could be analyzed in their use of narrative grading of responsibility. Also, the age range studied could be extended to include the entire adult age range to explore whether the use of complex grammatical passive forms continues to increase with age. Thus, life narratives represent an appropriate source for analyzing the development of linguistic features, which in turn correspond to aspects of an individual's narrative identity.

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#### REFERENCES

- Arnett, J. J. (1997). Young people's conceptions of the transition to adulthood. *Youth and Society, 29*, 3–23. doi:10.1177/0044118X97029001001
- Berman, R. A., & Slobin, D. I. (1994). *Relating events in narrative: A crosslinguistic developmental study*. Hillsdale, NJ: Erlbaum.
- Bieri, P. (1986). Zeiterfahrung und Personalität [Experience of time and personhood]. In H. Burger (Ed.), *Zeit, Mensch und Natur* (pp. 261–281). Berlin, Germany: Spitz.
- Bohn, A., & Berntsen, D. (2008). Life story development in childhood: The development of life story abilities and the acquisition of cultural life scripts from late middle childhood to adolescence. *Developmental Psychology, 44*, 1135–1147.
- Bruner, J. (1999). Narrative and metanarrative in the construction of self. In M. Ferrari & R. Sternberg (Eds.), *Self awareness: Its nature and development* (pp. 308–331). New York: Guilford Press.
- Capps, L., & Bonanno, G. A. (2000). Narrative bereavement: Thematic and grammatical predictors of adjustment to loss. *Discourse Processes, 30*, 1–25.
- Capps, L., & Ochs, E. (1995). *Constructing panic: The discourse of agoraphobia*. Cambridge, MA: Harvard University Press.
- de Silveira, C. (2005). Kodiermanual narrativer Handlungsspielräume im autobiographischem Erzählen [Coding manual of narrative scope for actions in autobiographical narratives]. *Unpublished manuscript*.
- Ely, R., MacGibbon, A., & Hadge, L. (2000). "I get scared all the time": Passivity and disaffiliation in children's personal narratives. *Narrative Inquiry, 10*, 453–473.
- Erikson, E. (1968). *Identity: Youth and crisis*. New York: Norton.
- Friedman, W. J. (1992). Children's time memory: The development of a differentiated past. *Cognitive Development, 7*, 171–187.
- Furnham, A., & Stacey, B. (1991). *Young people's understanding of society*. London: Routledge.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin, 126*, 248–269.
- Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology, 44*, 707–721.
- Habermas, T., Ehlert-Lerche, S., & de Silveira, C. (2009). The development of the temporal macrostructure of life narratives across adolescence: Beginnings, linear narrative form, and endings. *Journal of Personality, 77*, 527–560. doi:10.1111/j.1467-6494.2008.00557.x



- Habermas, T., & Paha, C. (2001). The development of coherence in adolescents' life narratives. *Narrative Inquiry, 11*, 35–54. doi:10.1075/ni.11.1.02hab
- Hauser, S. T., Allen, J. P., & Golden, E. (2006). *Out of the woods: Tales of resilient teens*. Cambridge, MA: Harvard University Press.
- Kurri, K., & Wahlström, J. (2007). Reformulations of agentless talk in psychotherapy. *Text & Talk, 27*, 315–338.
- Larson, R., & Hansen, D. (2005). The development of strategic thinking: Learning to impact human systems in a youth activism program. *Human Development, 48*, 327–349. doi:10.1159/000088251
- Levinson, D. (1996). *The seasons of a woman's life*. New York: Knopf.
- Linde, C. (1993). *Life stories*. Oxford, England: Oxford University Press.
- McAdams, D. P. (1985). *Power, intimacy, and the life story: Personological inquiries into identity*. New York: Guilford Press.
- McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self*. New York: Morrow.
- McAdams, D. P. (1994). *The person: an introduction to personality psychology* (2nd ed.). Fort Worth, TX: Harcourt Brace.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality, 63*, 365–396. doi:10.1111/j.1467-6494.1995.tb00500.x
- McAdams, D. P. (1999). Personal narratives and the life story. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality theory and research* (2nd ed., pp. 478–500). New York: Guilford Press.
- McLean, K. C. (2008). Stories of the young and the old: Personal continuity and narrative identity. *Developmental Psychology, 44*, 254–264. doi:10.1037/0012-1649.44.1.254
- McLean, K. C., & Pratt, M. W. (2006). Life's little (and big) lessons: Identity statuses and meaning-making in the turning point narratives of emerging adults. *Developmental Psychology, 42*, 741–722.
- McLean, K. C., & Thorne, A. (2003). Adolescents' self defining memories about relationships. *Developmental Psychology, 39*, 635–645.
- Nippold, M. A. (2004). Research on later language development. International perspectives. In R. A. Berman (Ed.), *Trends in language acquisition research: Vol. 3. Language development across childhood and adolescence* (pp. 1–8). Amsterdam: Benjamins.
- Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of looking at a child's narrative*. New York: Plenum Press.
- Piaget, J., & Inhelder, B. (1977). *Von der Logik des Kindes zur Logik des Heranwachsenden. Essay über die Ausformung der formalen operativen Strukturen* [From the logic of the child to the logic of the adolescent. Essay about the implementation of the formal operative structures]. Olten/Freiburg im Breisgau, Germany: Walter.
- Pinquart, M., & Silbereisen, R. K. (2000). Das Selbst im Jugendalter [The self in adolescence]. In W. Greve (Hrsg.), *Psychologie des Selbst* (pp. 75–95). Weinheim, Germany: Beltz-PVU.
- Plunkett, M. (2001). Serendipity and agency in narratives of transition: Young adult women and their careers. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.), *Turns in the road: Narrative studies of lives in transition* (pp. 151–175). Washington, DC: American Psychological Association.
- Quigley, J. (2000). *The grammar of autobiography: A developmental account*. Mahwah, NJ: Erlbaum.
- Quigley, J. (2001). Psychology and grammar: The construction of the autobiographical self. *Theory & Psychology, 11*, 147–170. doi:10.1177/0959354301112001
- Reilly, J., Zamora, A., & McGivern, R. F. (2005). Acquiring perspective in English: The development of stance. *Journal of Pragmatics, 37*, 185–208.

- Ricoeur, P. (1992). *Oneself as another*. Chicago: University Of Chicago Press.
- Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford University Press.
- Rotter, J. B. (1966). Generalised expectancies for internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, *45*, 489–493.
- Rönka, A., Oravala, S., & Pulkkinen, L. (2002). “I met this wife of mine and things got onto a better track”: Turning points in risk development. *Journal of Adolescence*, *25*, 47–63.
- Schafer, R. (1983). *The analytic attitude*. New York: Basic Books.
- Schlesinger, I. M. (1995). *Cognitive space and linguistic case: Semantic and syntactic categories in English*. Cambridge, England: Cambridge University Press.
- Schultz, W. T. (2001). De Profundis: Prison as a turning point in Oscar Wilde’s life story. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.), *Turns in the road: Narrative studies of lives in transition* (pp. 67–89). Washington, DC: American Psychological Association.
- Schütze, F. (1984). Kognitive Figuren des autobiographischen Stegreiferzählens [Cognitive structures of improvised personal narratives]. In M. Kohli & G. Robert (Eds.), *Biographie und soziale Wirklichkeit* (pp. 78–118). Stuttgart, Germany: Metzler.
- Seixas, P. (1996). Conceptualizing the growth of historical understanding. In D. R. Olson & N. Torrance (Eds.), *The handbook of education and human development: New models of learning, teaching, and schooling* (pp. 765–783). Oxford, England: Basil Blackwell.
- Singer, J. A. (1995). Seeing oneself: A framework for the study of autobiographical memory in personality. *Journal of Personality*, *63*, 429–457.
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality*, *72*, 437–459. doi:10.1111/j.0022-3506.2004.00268.x
- Tewes, U. (1991). *Hamburg-Wechsler-Intelligenztest für Erwachsene-Revision* [Hamburg-Wechsler Intelligence Test for Adults-Revision] (*HAWIE-R*). Bern, Switzerland: Huber.
- Tewes, U., Rossmann, P., & Schallberger, U. (1991). *Hamburg-Wechsler-Intelligenztest für Kinder-III* [Hamburg-Wechsler Intelligence Test for Children—III] (*HAWIK-III*). Bern, Switzerland: Huber.
- Thomsen, D. K., & Jensen, A. B. (2007). Memories and narratives about breast cancer: Exploring associations between turning points, distress, and meaning. *Narrative Inquiry*, *17*, 349–370.
- Thorne, A., McLean, K. C., & Lawrence, A. (2004). When remembering is not enough: Reflecting on self-defining events in late adolescence. *Journal of Personality*, *72*, 513–542.
- Wiesner, S., & Silbereisen, R. K. (1996). Lebenslaufereignisse und biographische Muster in Kindheit und Jugend [Life events and patterns of biography in childhood and youth]. In R. K. Silbereisen, L. A. Vaskovic & J. Zinnecker (Eds.), *Jungsein in Deutschland* (pp. 185–198). Opladen, Germany: Leske & Budrich.
- Wineburg, S. (1996). The psychology of learning and teaching history. In D. C. Berliner & R. Calfee (Eds.), *The handbook of educational psychology* (pp. 423–437). London: Prentice Hall.
- Yamamoto, M. (2006). Agency and impersonality. Their linguistic and cultural manifestations. In A. Werner & M. Noonan (Series Eds.), *Studies in language companion series* (Vol. 78). Amsterdam: Benjamins.
- Young, R. A., Friesen, J. D., & Borycki, B. (1994). Narrative structure and parental influence in career development. *Journal of Adolescence*, *17*, 173–191.

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Narrative Grading of Responsibility of Secure and Insecure Attachment Representations  
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Abstract

The Adult Attachment Interview (AAI) measures the degree to which the interviewee can narrate childhood experiences coherently. We propose an association between coherent narration (secure attachment) in the AAI and narrative agency and responsibility, and likewise an inverse relation to narrative grading of responsibility and agency. We studied our hypotheses based on 28 AAIs conducted with women. We defined indicators for narrative agency and narrative grading of responsibility, and tested their relative frequency in the secure and in the insecure group. Results showed significantly more narrative grading in the discourse of insecure participants. Results are discussed in terms of a grammar of attachment.

Keywords: Adult Attachment Interview, secure and insecure attachment representations, grammar of attachment, narrative agency, narrative grading of responsibility

Narrative Grading of Responsibility of Secure and Insecure Attachment Representations  
in the Adult Attachment Interview

The present study was designed to test whether the transcripts of Adult Attachment Interviews (AAIs; George, Kaplan, & Main, 1996) of insecurely attached young women show less agentic linguistic expressions and more linguistic expressions of grading of responsibility than securely attached women. The secure attachment representation is defined in the AAI by a coherent narration of childhood experiences. A coherent narration in the AAI implies the willingness to present themes of challenge or conflict, a balanced emotional involvement, and an adequate commitment to the interview questions with respect to length, style, and content. We propose that this definition of coherence implies that securely attached narrators are able to refer to themselves as active experiencers and agents, and are able to adequately attribute events to internal and external forces. Likewise, insecure narrators will gradate or even negate their narrative responsibility by distancing themselves from clear statements about their responsibility or by being vague and impersonal. This might be especially true for individuals with an insecure-avoidant attachment representation. We suggest that the attribution of agency and assumption of responsibility is reflected linguistically in the AAI transcripts. Some linguistic characteristics of the AAIs of the insecure attachment categories have been observed and will be specified below. Only few systematic studies have quantified linguistic aspects of AAI transcripts (Appelmann, 2000; Buchheim & Mergenthaler, 2000; Buchheim & Mergenthaler, 2002). These studies employed computer-based dictionaries for emotions and abstractions to measure the narrative competence of the narrator. Narrative competence was described as showing in a coherent discourse with a well-balanced integration of emotions and thought processes. Differences among the attachment categories in the linguistic measures were found: While the secure group

showed a balanced approach to the verbalization of emotions and thoughts, the dismissing group showed less emotion and thought processes, and the preoccupied group most frequently used emotionally negative words (Buchheim & Mergenthaler, 2000).

In the present study we aimed to supplement the qualitative description of typical linguistic aspects of the secure and insecure mental attachment representations with the measurement of the linguistic expression of agency and grading of responsibility. In doing so, we wanted to confirm and specify a grammar of attachment at the linguistic surface in relatively elementary linguistic terms. We will first address narrative agency and narrative grading of responsibility. Subsequently, we introduce the AAI and our research questions related to attachment representation and narrative style.

#### Narrative Responsibility and Narrative Agency

Theories of narrative agency are concerned with how narratives convey a sense of intentionality, mastery, and self-realization (McAdams, 1994) and thus of intentional responsibility of the agentic self (Carr, 1986; Lakoff, 1987; Schütze, 1984). Plunkett (2001) conceptualized narrative agency as the presence of a clear goal and of explicit strategies of how to reach a goal in a narrative. Agency is resistant to setbacks and comprises the resolution to create one's own chances to reach one's goals. For Hauser, Allen, and Golden (2006), agency comprises "the conviction that what one does matters" (p. 39) and "that one can intervene effectively in one's own life" (p. 39). Hauser and colleagues studied life narratives of sixty-seven adolescents who were confined to the locked wards of a residential psychiatric hospital and conducted follow-up interviews ten years later. In comparison with a contrast group made by typical adolescents from this group, nine most resilient adolescents differed in their narratives. They accepted responsibility for their behavior and had a sense that they could influence their

life course, while the adolescents of the contrast group narrated their life events with indifference, as passively experienced and externally determined. To accept responsibility in one's autobiography and to express it adequately is thus a source both of strength when coping with difficult life events and of psychic health. This seems to suggest a link between narrative agency and secure mental attachment representation.

#### Narrative Grading and Negating of Agency and Responsibility

To Schafer (1983) the narrative disclaiming of action is a central indicator of the individual's sense of not being able to direct her or his life. By attributing agency to, for example, thoughts instead of oneself, a psychotherapy patient denies responsibility and appears as the victim of events. However, in acquiring a more agentic stance in the course of psychotherapy, the narrator takes on responsibility for her or his life. In a similar vein, Peterson and McCabe (1983) used the term *victim stories* to describe those passively narrated life stories in which protagonists do not act but only react.

Kurri and Wahlström (2007) adopted the term *agentless talk* to refer to impersonal expressions which leave unspecified the agent of the actions, such as nominalizations and the impersonal use of *one* or *you*. Agentless talk may serve to escape blame and personal responsibility. Also for Yamamoto (2006) agency and responsibility are inextricably linked. He too views impersonalization as the preferred characteristic of the linguistic reduction of agency. In a clinical case study, Capps and Ochs (1995) proposed a *grammar of helplessness* based on the linguistic examination of talk by a patient with agoraphobia. Here helplessness is expressed, for example, by the frequent use of modal verbs such as *could*, *may*, or *must*. These present action as necessary rather than voluntary. Helplessness is also expressed by grammatical forms which place the person in the role of the experiencing or affected object. Another aspect is the

nominalization of feelings, which omits the subject who feels.

#### Linguistic Features of the Adult Attachment Interview

The AAI (George, Kaplan, & Main, 1996), a semi-structured, biographical interview, allows a relatively free flow of speech and discourse, and is designed to allow as natural a course as possible. The AAI coding is based on rating scales that assess the mental representations of attachment experiences. Plausible and coherent responses indicate a secure and autonomous attachment representation, whereas contradictory narratives are classified as insecure attachment representations. The securely attached portray childhood experiences in a coherent manner. The verbal accounts are open and free, as well as comprehensible. Narrative structure is clear and there is a tendency to use the first person pronoun *I* (Main, 2001). What is essential for a classification as securely attached is not the content of the narrative, but that it is well-balanced, complete, well contextualized, and free of distortion. In contrast, individuals with an insecure-dismissing attachment representation portray themselves as independent and self-sufficient, and give rather general descriptions in place of vivid accounts. A defensive narrative style is characterized by a brevity of answers, by the use of abstract terms, distancing, nominalizing formulations, and the tendency to apply the agentless passive form (Gloger-Tippelt, 2001) together with the use of the impersonal subject *one*. While individuals with enmeshed-preoccupied attachment representations portray their childhood in great detail, no clear picture of childhood experiences emerges due to incomprehensible accounts, exaggerated claims, and alternating evaluations. The interviewee's train of thought is often lost through confusing associations, as a result of which interviews can become extremely long-drawn. Incomplete, unclear sentences, vague phrases, and inappropriate global expressions characterize partly contradictory and pseudo-psychological accounts (cf. Gomille, 2001).



## Hypotheses

The first hypothesis was that securely attached women show more narrative agency than insecurely attached women. The second hypothesis was that securely attached women show less narrative grading of responsibility than insecurely attached women. Further, we expected positive correlations of narrative agency and negative correlations of narrative grading of responsibility with three AAI subscales that directly refer to coherence: *metacognitive processes*, *coherence of transcript*, and *coherence of mind*.

## Method

### *Participants*

Transcripts of the AAIs of 28 women were subjected a re-analysis. The interviews had been conducted as part of the *Heidelberg Longitudinal Study on Transition to Parenthood* (Gomille & Gloger-Tippelt, 1999). Participants had a moderate to high level of education (85% with the German *Abitur*, which is reached by about 40% of the German population). At the time of the interview, they had a mean age of 33.2 years ( $SD = 4.11$ ). Each AAI was reliably coded by the original researchers (Gomille & Gloger-Tippelt, 1999), who had been certified by Mary Main and Eric Hesse to code the AAI, adhering to the classification system of Main and Goldwyn (1994). The interrater reliability for the three-fold main classification (secure versus dismissing versus enmeshed-preoccupied) was a 86% match,  $\kappa = .75$  (cf. Gloger-Tippelt, Gomille, Koenig, & Vetter, 2002). Thirteen participants (46.4%) were classified as secure, 11 (39.3%) as insecure-dismissing, and four (14.3%) as insecure-enmeshed-preoccupied (Gloger-Tippelt, 1999; Gomille & Gloger-Tippelt, 1999). Due to the small number of insecure-enmeshed-preoccupied participants, we did not differentiate among the insecurely attached participants, and only compared securely with insecurely attached participants.

*Segmentation and Coding*

The 28 AAIs were first segmented into propositions by a research assistant who had previously achieved an interrater reliability of 98.5% in the segmentation of 20 life narratives (cf. Habermas & de Silveira, 2008). A coding manual, developed by the first author, was applied to the transcripts, coding each proposition for the absence or presence of each code. We coded the two variables only in the first section of the AAI, including the responses that concerned early childhood, early attachment figures, and the five adjectives used to describe mother and father, as well as the specific episodes exemplifying the adjectives. Responses to the question concerning *behavior during episodes of emotional upset* were also coded. Responses to all other questions were not coded. This selection of answers to be coded was guided by the aim to code autobiographical narratives the content of which was minimally constrained by the interview questions, comprising general autobiographical themes and allowing free narration. For example, we considered the AAI questions concerning illness, trauma, or actual relationships to be too specific and directive, thus leaving the narrator too little room to use the preferential way of constructing life events.

Two variables, narrative agency and narrative grading of responsibility, were coded by the first author without knowledge of attachment classifications. Absolute frequencies of each code were then divided by the total number of analyzed propositions to obtain relative frequencies for each code. Variables were coded independently, allowing multiple coding of a single proposition. Interrater reliabilities for the coding manual had been assessed previously using 20 life narratives from a different sample (Habermas & de Silveira, 2008). The reliabilities for two independent coders (the first author and a German teacher) were  $\kappa = .90$  for agency; and  $\kappa = .89$ ,  $\kappa = .97$ ,  $\kappa = .93$ ,  $\kappa = .81$ ,  $\kappa = .87$ ,  $\kappa = .92$ ,  $\kappa = .95$ , and  $\kappa = .85$  for the eight subcodes of

grading of responsibility.

*Narrative agency.* Propositions containing a self-initiated and self-implemented action by the narrator, and in which the acting *I* is explicitly stated as the syntactic subject (e.g., *I made an appointment*) were coded as expressing narrative agency. Only those verb phrases were coded which explicitly stated an activity, for example *go*, *say*, or *do*. References to *me* and *myself* were considered to be equally representative of agency as *I*. However, to be coded as an example of narrative agency, the context of the statement had to confirm that the agentic form also expressed an agentic meaning. If narrative agency, indicated by grammatical form, was immediately disqualified at a semantic level, it was not coded.

*Narrative grading of responsibility.* Statements were coded if they concerned the narrator but actively avoided explicitly naming him or her as the agent. Circumstances in which the narrator definitely was not able to act in any other way, such as in the case of accidents or illness, were not coded. There were a total of eight different codes for narrative grading of responsibility. The reason for having so many different codes was that this code was defined negatively by assembling means which all have the same effect of grading or diminishing agency. The eight codes are represented in Table 1.

## Results

All variables were distributed normally and had homogenous variances in both groups of securely and insecurely attached women. Due to the small number of cases, we used Mann-Whitney U tests for two independent samples. All statistical tests were performed at a significance level of  $p < 0.05$  (one-sided). We also calculated correlations for the variables narrative agency and narrative grading of responsibility, and for three AAI-subscales that directly refer to the coherence of the AAI (metacognitive processes, coherence of transcript, and

coherence of mind). We used non-parametric Kendall's Tau rank correlation coefficients (one-tailed).

#### *Secure versus Insecure Attachment Representations*

Our first hypothesis that participants with a secure attachment representation show greater narrative agency than those with an insecure representation was not confirmed (mean rank for the insecurely attached: 13.93 ( $N = 15$ ); mean rank for the securely attached 15.15 ( $N = 13$ );  $U = 89.00$ ,  $Z = -.392$ ,  $p = .717$ ,  $d = -0.10$ ). Our second hypothesis that the insecurely attached use more narrative grading of responsibility than the securely attached, was confirmed, with a mean rank for the insecurely attached of 17.53 ( $N = 15$ ) and for the securely attached of 11.00 ( $N = 13$ );  $U = 52.00$ ,  $Z = -2.096$ ,  $p = .037$ . The effect size was moderate ( $d = 0.73$ ).

An exploratory comparison, regarding the eight subcodes of narrative grading of responsibility revealed no significant group differences. Descriptive data for narrative agency, narrative grading of responsibility, and the eight narrative grading of responsibility subcodes are presented in Table 2. The most pronounced difference was a trend for the insecurely attached to use more impersonalization (subcode 2) which is characterized by omission of the grammatical subject.

#### *Narrative Agency, Narrative Grading of Responsibility, and AAI-Subscales*

As expected, grading of responsibility correlated negatively with the AAI scales coherence of transcript ( $\tau = -.287$ ,  $p < .05$ ), coherence of mind ( $\tau = -.249$ ,  $p < .05$ ), and metacognitive processes ( $\tau = -.401$ ,  $p < .01$ ). Narrative agency did not correlate significantly with any of these scales. The two variables narrative agency and narrative grading of responsibility also proved to be uncorrelated.

## Discussion

This study of linguistic parameters of AAI transcripts revealed a relationship of attachment security with linguistic indicators of grading of responsibility, but not with linguistic indicators of agency. Narrative grading of responsibility was more prominent in the group of participants with insecure attachment representations than in the group of those with secure representations. Linguistic expressions of a grading of responsibility can thus be viewed as an aspect of a grammar of (insecure) attachment. There was a trend for the insecurely attached to use less the word *I*, which is generally to be expected in autobiographical narration, and substitute it by impersonal pronouns such as *one*. This suggests that the interviewee does not come into close contact with their autobiographical (childhood) memories. Normally, emotionality accompanies narrative intimacy with one's own life. It seems that this emotionality would disturb the narrator's internal emotional stability to such an extent that it must be linguistically averted. This fits in nicely with the avoidance of emotions in the insecure-dismissing attachment group (Gloger-Tippelt, 2001; Main & Goldwyn, 1994) who make up the majority of the insecurely attached group in this study. The significant overall more frequent use of forms of grading of narrative responsibility in the insecurely attached indicates a reduction of personally responsible and intentional autobiographical narration in this group.

Contrary to our expectations, narrative agency was not related to attachment security. A possible explanation is that agency as expressed by simple active sentences is relatively unaffected by personality factors because it is just a very conventional form of autobiographical narration. Another, more clinical explanation is that narrative agency can be exaggerated in some neurotic states such as mania or excessive narcissism. Also individuals with depression may show increased narrative agency, given that they tend to talk more about negative events and in doing so ascribe these events to their own activities. Thus the possible presence of manic,

narcissistic, or depressive psychopathology in the insecurely attached may have counteracted a decreased use of agentic formulations in other parts of the insecure group.

The negative correlations of narrative grading of responsibility with the AAI-ratings of metacognitive processes, coherence of transcript, and coherence of mind confirmed our expectation. The active linguistic grading of responsibility may diminish the role of the narrator-protagonist as the central organizing force in the life which is being narrated. If actions are motivated, they cohere by reference to these motives and aims. If events just happen and behavior is not intentional, a life loses its unifying direction.

#### *Limitations of the Study*

In the AAI, the secure attachment representation is characterized by the frequent use of the first person form *I* (Main, 2001). This suggests an overlap with our operationalization of the variable narrative agency. A more serious limitation of our study is that due to the small number of participants with an insecure-enmeshed-preoccupied attachment, a differentiated analysis of narrative grading of responsibility in different kinds of insecure attachment was not possible.

#### *Future Research*

The definition of narrative agency should be refined in future investigations to better reflect underlying psychological agency. The revised definition could more finely differentiate verbs, in order to distinguish kinds of narrative agency according to whether they reflect either cognitive (e.g., *thinking*) or concrete action (e.g., *going*). A further refinement could be based on a hierarchy of verbs in terms of degrees of agency (cf. Quigley, 2000, 2001; Schlesinger, 1995).

A promising research question is how specific mental disorders like depression, narcissistic disorders, and manic states differ in regard to narrative agency and narrative grading of responsibility. Finally, narrative grading of responsibility may serve to regulate emotions and

therefore correlate with a reduction in the narrative expression of emotions, both in the AAI and as well as in other contexts.

## References

- Appelmann, E. (2000). Attachment experiences transformed into language. *American Journal of Orthopsychiatry*, 70, 192-202.
- Buchheim, A., & Mergenthaler, E. (2000). The relationship among attachment representation, emotion-abstraction patterns, and narrative style: A computer based text analysis of the Adult Attachment Interview. *Psychotherapy Research*, 10, 390-407.
- Buchheim, A., & Mergenthaler, E. (2002). Adult attachment representation and computer assisted language measures: What can we learn from the therapeutic cycle mode for the Adult Attachment Interview and vice versa? *International Congress Series 1241*, 353-360.
- Capps, L., & Bonanno, G. A. (2000). Narrative bereavement: Thematic and grammatical predictors of adjustment to loss. *Discourse Processes*, 30, 1-25.
- Capps, L., & Ochs, E. (1995). *Constructing panic. The discourse of agoraphobia*. Cambridge, MA: Harvard University Press.
- Carr, D. (1986). *Time, narrative, and history*. Bloomington, IN: Indiana University Press.
- George, C., Kaplan, N., & Main, M. (1996). *Adult Attachment Interview*. Unpublished manuscript (3rd ed.), University of California, Berkeley.
- Gloger-Tippelt, G. (1999). Transmission von Bindung bei Müttern und ihren Kindern im Vorschulalter [Transmission of attachment in mothers and their preschool children]. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 48, 113-128.
- Gloger-Tippelt, G. (2001). Unsicher-distanzierende mentale Bindungsmodelle [Insecure-avoidant mental models of attachment]. In G. Gloger-Tippelt (Ed.), *Bindung im Erwachsenenalter: Ein Handbuch für Forschung und Praxis* (pp. 174-200). Bern,



Switzerland: Huber.

Gloger-Tippelt, G., Gomille, B., König, L., & Vetter, J. (2002). Attachment representations in 6-year olds: Related longitudinally to the quality of attachment in infancy and mothers' attachment representations. *Attachment and Human Development, 4*, 318-339.

Gomille, B. (2001). Unsicher-präokkupierte mentale Bindungsmodelle [Insecure-enmeshed mental models of attachment]. In G. Gloger-Tippelt (Ed.), *Bindung im Erwachsenenalter: Ein Handbuch für Forschung und Praxis* (pp. 201-225). Bern, Switzerland: Huber.

Gomille, B., & Gloger-Tippelt, G. (1999). Transgenerationale Vermittlung von Bindung: Zusammenhänge zwischen den mentalen Bindungsmodellen von Müttern, den Bindungsmustern ihrer Kleinkinder sowie Erlebens- und Verhaltensweisen der Mütter beim Übergang zur Elternschaft [Transgenerational transmission of attachment: Interrelations between maternal mental models of attachment, the attachment status of their infants, and maternal experiences and behavior during the transition to parenthood]. *Praxis der Kinderpsychologie und Kinderpsychiatrie, 48*, 101-112.

Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology, 44*, 707-721.

Hauser, S. T., Allen, J. P., & Golden, E. (2006). *Out of the woods: Tales of resilient teens*. Cambridge, MA: Harvard University Press.

Kurri, K., & Wahlström, J. (2007). Reformulations of agentless talk in psychotherapy. *Text &*

*Talk*, 27, 315–338.

Lakoff, G. (1987). *Women, fire and dangerous things: What categories reveal about the mind*.

Chicago: The University of Chicago Press.

McAdams, D. P. (1994). *The person: An introduction to personality psychology* (2nd ed.). Fort

Worth, TX: Harcourt Brace.

Main, M. (2001). Aktuelle Studien zur Bindung [Current studies of attachment]. In G. Gloger-

Tippelt (Ed.), *Bindung im Erwachsenenalter: Ein Handbuch für Forschung und*

*Praxis* (pp. 1-51). Bern, Switzerland: Huber.

Main, M., & Goldwyn, R. (1994). *Adult attachment scoring and classification system*.

Unpublished manuscript, University of California, Berkely.

Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of looking at*

*a child's narrative*. New York: Plenum Press.

Plunkett, M. (2001). Serendipity and agency in narratives of transition: Young adult women and

their careers. In D. P. McAdams, R. Josselson, & A. Lieblich (Eds.) (2001), *Turns*

*in the road: Narrative studies of lives in transition* (pp. 151–175). Washington, DC:

American Psychological Association.

Quigley, J. (2000). *The grammar of autobiography: A developmental account*. Mahwah, NJ:

Erlbaum.

Quigley, J. (2001). Psychology and grammar: The construction of the autobiographical self.

*Theory & Psychology*, 11, 147–170.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of

reinforcement: A case history of a variable. *American Psychologist*, 45, 489–493.

Schafer, R. (1983). *The Analytic Attitude*. New York: Basic Books.

- Schlesinger, I. M. (1995). *Cognitive space and linguistic case: Semantic and syntactic categories in English*. Cambridge, England: Cambridge University Press.
- Schütze, F. (1984). Kognitive Figuren des autobiographischen Stegreiferzählens [Cognitive structures of improvised personal narratives]. In M. Kohli & G. Robert (Eds.), *Biographie und soziale Wirklichkeit* (pp. 78–118). Stuttgart, Germany: Metzler.
- Yamamoto, M. (2006). Agency and impersonality: Their linguistic and cultural manifestations. In A. Werner & M. Noonan (Series Eds.): Vol. 78. *Studies in Language Companion Series*. Amsterdam: Benjamins.

Table 1

*Eight Subcodes of Narrative Grading of Responsibility*

Name	Definition and Example
1 <i>Abstraction</i>	Passive forms ( <i>to be</i> with past participle) if it did not name the narrator as the syntactic subject: <i>the letters were written at home.</i>
2 <i>Impersonalization</i>	One or you when used for syntactic subject: <i>one needs this.</i>
3 <i>Necessity</i>	Modal verbs of necessity (e.g., <i>must, shall</i> ) or possibility (e.g., <i>can, may</i> ); external authority determines necessity ( <i>I must do it now</i> ) or possibility ( <i>I can go now</i> ) of an action (cf. Capps & Ochs, 1995): <i>I had to put up with the situation.</i>
4 <i>Recipient</i>	Narrator is the passive recipient of an action, but is directly referred to, indicated by verbs <i>have</i> (in the sense of <i>to come by</i> ), <i>get, receive, and need</i> (e.g., <i>I need someone to help me</i> ): <i>I then came to take part in sport.</i>
5 <i>Passive</i>	Exclusively German passive reflexive constructions and verbal substantives (e.g., <i>Mein Wunsch erfüllt sich</i> 'my wish comes true').
6 <i>Externalization</i>	a) Influence by powerful others (cf. Rotter, 1966): <i>then my friend took me to the club/ and then I was in the club too.</i> b) Nominalizations (turning a verb or an adjective into a noun): <i>and then came the first experiences; then there was the alcoholism</i> (cf. Capps & Bonanno, 2000). c) Nominalization of emotions (cf. Capps & Ochs, 1995): <i>the feeling of relief was immense; tears were shed.</i>
7 <i>Restriction</i>	a) Uncertainty: <i>I don't know/ why I did that</i> ; b) Attempts as futile: <i>I try/ to get rid of these terrible feelings</i> ; c) Emotional helplessness: <i>I feel helpless</i> ; d) Negation: <i>there is no way I will ever manage that</i> (cf. Capps & Ochs, 1995).
8 <i>Generalization</i>	Generalized experiences: <i>that's always the case in puberty.</i>

Table 2

*Mean Values and Standard Deviations of Relative Frequencies for Narrative Agency, Narrative Grading of Responsibility, and Subcodes (in Percent of Propositions)*

Variables	<i>M</i>		<i>SD</i>	
	insecure	secure	insecure	secure
Narrative Agency	3.83	3.95	1.25	1.13
Narrative Grading of Responsibility	12.41	8.44	6.17	5.01
Code 1 (Abstraction)	.04	.12	.07	.21
Code 2 (Impersonalization)	2.55	1.15	2.05	1.19
Code 3 (Necessity)	.78	.73	.46	.34
Code 4 (Recipient)	.21	.27	.35	.26
Code 5 (Passive)	.08	.05	.16	.13
Code 6 (Externalization)	4.63	3.32	3.16	2.25
Code 7 (Restriction)	2.81	1.99	1.41	1.60
Code 8 (Generalization)	1.28	.78	1.31	1.23

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- Silveira, C. de (2009). Gibt es eine Grammatik von Bindung? - Eine textlinguistische Analyse zu narrativer Agentizität und Distanzierung im Adult Attachment Interview. In: G. Schneider & H.-J. Eilts (Hrsg.), *Klinische Psychoanalyse heute? Forschungsfelder und Perspektiven*. DPV Herbsttagung 2008.
- Silveira, C. de (2009). „Die Gefühle der Entlastung waren so stark“ - Narrative Distanzierung von Müttern mit sicherer und unsicherer Bindungsrepräsentation. *PSYCHOANALYSE – Texte zur Sozialforschung, 2*, 148-153.
- Silveira, C. de, Habermas, T., & Gloger-Tippelt, G. (2010) *Narrative grading of responsibility of secure and insecure mothers in the Adult Attachment Interview*. Manuscript submitted for publication.
- Silveira, C. de (2002). Affektive und kognitive Aspekte der Traumberichte schizophrener Patienten. In: Leuschner, W. & Hau, S., & Deserno, H. (Hrsg.), *Traum-Expeditionen. Psychoanalytische Beiträge aus dem Sigmund-Freud-Institut*, Bd. 8 (S. 249-264). Tübingen: Edition diskord.
- Habermas, T., & Silveira, C. de (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology, 3*, 707-721.
- Habermas, T., Ehlert-Lerche, S., & Silveira, C. de (2009). The development of the temporal macrostructure of life narratives across adolescence: Beginnings, linear narrative form, and endings. *Journal of Personality, 77*, 527-560.

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