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Family of Origin History, Psychological Distress, Quality of Childhood Memory, and Content of First and Recovered Childhood Memories

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Family of origin history, psychological distress, quality of childhood memory, and content of first and recovered childhood memories

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Abstract

Objective: Individual differences in quality of childhood memory and recovered memories from childhood remain poorly understood. Therefore, this study tested several hypotheses which may help account for the large amount of variation that individuals report in the general quality of their childhood memory and the valence of the memories that many individuals report recovering from their childhoods. It was hypothesized that family of origin dysfunction would be associated with poorer childhood memory, that current depressed mood would be associated with impaired childhood recall and the recall of negative memories, and that the content of recovered childhood memories would be disproportionately negative because they include a significant number of memories which had been repressed or dissociated.

Method: Questionnaires were administered to 553 college students, 27% of whom reported a history of child abuse.

Results: The participants reported substantial variation in the general quality of their childhood memories and also a wide variety of different types of experiences for both their first childhood memories and the recovered memories that most of them had from their childhoods. Weak associations were found between family of origin dysfunction and poorer general quality of childhood memory, but the study as a whole resulted in few significant findings.

Conclusions: Only weak support was found for some of the factors that have been hypothesized to distort autobiographical memory. The substantial individual variation in childhood memory that has been reported by college student samples remains poorly understood.

Keywords

Child abuse, Memory, Recovered memories

IN RECENT YEARS several researchers have reported that large numbers of people have recovered memories of childhood sexual abuse which had been blocked from conscious awareness for some period as a result of having been repressed or dissociated. The significant controversy which arose regarding these memories initially focused primarily on repressed sexual abuse memories (e.g., Herman & Schatzow, 1987). Since then dissociation has received more attention as the mechanism responsible for recovered abuse memories (e.g., Yates & Nasby, 1993). False memories resulting from suggestive therapy techniques (e.g., Loftus, 1993) as well as ordinary forgetting (e.g., Loftus, Garry, & Feldman, 1994) have also been widely discussed explanations for recovered child abuse memories.

Some of the controversy regarding these memories appears to have resulted from a confusion of the observable phenomenon of recovered child abuse memories with the mechanisms responsible for those memories. Regarding the phenomenon of recovered child abuse memories, there appears to be little disagreement that individuals can lose memories of significant childhood events, including abuse experiences, and later recover them (e.g., Lindsay & Read, 1994). Empirical studies of these memories have also resulted in relatively consistent findings. Across a variety of clinical and nonclinical samples, between 12% and 64% of those reporting a history of child abuse also report having recovered memories of their abuse Briere and Conte 1993, Elliott and Briere 1995, Feldman-Summers and Pope 1994, Herman and Schatzow 1987, Loftus et al 1994b, Melchert 1996, Melchert and Parker 1997, Williams 1995. In addition, approximately two-thirds to three-quarters of two large college student samples reported recovering memories from their childhoods in general, suggesting that it may be normative to recover childhood memories Melchert 1996, Melchert and Parker 1997. There has been heated disagreement, however, regarding the mechanisms responsible for these memories. The mechanisms that have been debated (e.g., repression, dissociation, false memories, ordinary forgetting) are not well understood, and there has been little investigation of the role of these mechanisms with regard to child abuse memories specifically. Therefore, the present study tested several theory-based hypotheses regarding repression, dissociation, and the influence of current mood on memory which may help explain recovered child abuse memories.

Child abuse has been hypothesized to cause two different types of repression or dissociation. (For purposes of this study, a distinction was not made between repression and dissociation because both have similar defensive purposes [i.e., to protect against psychologically threatening experience] and many of the descriptions of the two constructs are quite similar [see Reviere, 1996]). The first of these involves the blocking of memories for particular abuse experiences, though under certain circumstances these memories may later be recovered (e.g., Briere and Conte 1993, Loftus and Loftus 1976, van der et al 1995). The studies noted above which have consistently found that significant numbers of abuse survivors also report recovering memories of their abuse suggest that this type of repression or dissociation may occur relatively frequently. The second type of repression or dissociation that has been hypothesized to result from traumatic child abuse involves a global form of amnesia for one's childhood which has been described as "total" (Briere, 1992) or "robust" repression (Ofshe & Singer, 1994) or global dissociative memory impairment (van der Kolk & Fisler, 1995). This type of memory impairment has received much less empirical attention, but several writers have suggested that it is common among abuse survivors Bass and Davis 1988, Blume 1990, Courtois 1988, Ellenson 1985, Frederickson 1992. Two studies have investigated this question, and both found large amounts of variation in reported quality of childhood memory, with some participants reporting clear memories from very early childhood and others reporting a lack of recall for most of their elementary school years Melchert 1996, Melchert and Parker 1997. In neither of these studies, however, was there a relationship between a reported history of child abuse (physical, emotional, and/or sexual) and reporting poorer childhood recall.

If child abuse per se does not cause the global repression or dissociation of childhood memories, perhaps it is more general aspects of family dysfunction that cause children to repress or dissociate traumatic periods from their childhoods. The general quality of parent-child relationships and characteristic patterns of family communication clearly impact how children process, interpret, and even remember their experience (e.g., Crittenden 1995, Fivush 1994, Miller 1994). In addition, one of the few studies that has investigated the accuracy of children's memory for traumatic experiences found that general aspects of parent-child relationships can affect children's recall (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994). Children aged 3 to 10 years who underwent a painful medical procedure involving forced genital contact (catheterization through the urethra) were questioned an average of 12 days later about what happened during the procedure. Poorer accuracy of recall was associated with younger age, but also with less maternal support and communication with the child. A literature search found no study that has examined whether aspects of parental caregiving such as these help explain the poor childhood memory that many adults have reported. Therefore, the first question investigated in this study examined whether dysfunctional parent-child relationships are associated with poorer memory for one's childhood in general.

Another possible explanation for poor childhood memory involves the effect of depression on memory. Consistent evidence finds that depression is frequently related to memory impairment. For example, a recent meta-analysis found a stable association between depression and impaired memory across 147 studies (Burt, Zembar, & Niederehe, 1995). Nearly all of these studies focused on short-term memory, however, and little is known about the effects of mood on the recall of remote memories such as childhood events. Nevertheless, current depressed mood may impair childhood memory as it does short-term memory. Given the increased prevalence of depression among child abuse survivors

Kendall-Tackett et al 1993, Malinosky-Rummell and Hansen 1993, it is possible that this effect occurs relatively frequently in this population.

Another possible effect of current mood on childhood memory involves the tendency to recall memories consistent with one's current depressed or anxious mood. There is substantial evidence for the effect of mood congruent memory with regard to short-term memory Blaney 1986, Matt et al 1992. Again, however, this has been investigated little in terms of remote childhood memories. The only study located which investigated mood congruent memory for childhood events found that experimentally induced happy and sad moods had marginal effects on childhood recall while there were strong effects on the recall of recent events (Salovey & Singer, 1989). Though the effect may be weak, naturally-occurring depressed or anxious mood may bias individuals to recall childhood memories which are more negative in content (e.g., family fights, child abuse experiences). There tends to be greater depression and anxiety among individuals who experienced child abuse and family of origin dysfunction, however, so depressed or anxious individuals as a group are likely to have more memories of aversive childhood experiences in general. Therefore, comparing the size of the effects for mood and family history on the content of individuals' childhood memories may clarify the effect of mood congruent memory on childhood recall.

Examining the content of recovered childhood memories can provide another test of the repression and dissociation hypotheses. According to these hypotheses, it is psychologically threatening memories that are blocked from consciousness (the literature on repression has often emphasized intrapsychically unacceptable memories while the literature on dissociation has usually emphasized memories of traumatic experiences; see Reviere, 1996). It may be possible that some positive experiences are psychologically threatening to children (e.g., perhaps an abusive parent offering comfort is threatening to the self-schemas of a child who ordinarily expects to be punished). Presumably it is primarily negative experiences, however, which are repressed or dissociated. Therefore, if there is a significant number of repressed or dissociated memories among the recovered memories that individuals report, then the content of their recovered memories should be disproportionately negative. In this study, the content of participants' first childhood memories served as the criterion to which the content of their recovered childhood memories was compared. It is possible that individuals' first childhood memories tend to be repressed, dissociated, or biased in terms of their valence. Unless these effects are quite strong, however, individuals' first childhood memories should be more representative of their early experience than their childhood memories that had been repressed or dissociated, because the latter presumably are generally negative. Therefore, it was hypothesized that the recovered childhood memories that the participants reported would include a significant number of memories which had originally been repressed or dissociated, and consequently would be disproportionately negative in content when compared to their first childhood memories.

The questions raised above are very difficult to investigate largely because of the unknown reliability of individuals' reported childhood memories. Current evidence suggests that individuals with mental health problems do not exaggerate adversity that they experienced in childhood, though there is evidence that individuals without mental health problems may underreport childhood adversity (Maughan & Rutter, 1997). In addition, the memories that were analyzed in this study were collected through the use of questionnaires due to the large sample size that was required to achieve sufficient

statistical power, and it is possible that the use of semi-structured or clinical interviews would have resulted in more thorough reports of adverse childhood experiences (Brewin, Andrews, & Gotlib, 1993). Though we must wait for future research to establish the precise reliability of childhood memory, it was judged that the study questions were too important to postpone an initial exploration of these questions, even though this requires that the study results be viewed as tentative. Therefore, the literature reviewed above formed the basis for testing the following hypotheses in this study: (1) Family of origin dysfunction would be associated with poorer childhood recall; (2) Current depressed mood would be associated with poorer childhood recall; (3) Current depressed or anxious mood would be associated with recalling more negative first memories of childhood; (4) Current depressed or anxious mood would be associated with recovering childhood memories which are negative in content; and (5) Participants' recovered childhood memories would tend to be more negative than their first childhood memories.

Method

Participants

The participant sample included 553 adults who were recruited through use of a psychology department subject pool at a large research university in the southwestern United States. The mean age of the participants was 19.72 (*SD* = 3.06) and 60% were female. The majority of the participants identified their ethnic background as European American (82%), and 10% indicated Latin American, 5% indicated African American, and 4% indicated other ethnic backgrounds. Just over one-quarter (27%) of the participants indicated that they had experienced "physical abuse … ," "emotional abuse … ," or "sexual abuse (unwanted sexual activity) as a child." Of the total sample, 17% indicated a history of physical abuse, 17% indicated a history of emotional abuse, and 13% indicated a history of sexual abuse. Twelve percent indicated a history of one form of abuse, 9% indicated a history of two forms of abuse, and 5% indicated a history of all three forms of child abuse.

Instruments

The Family Background Questionnaire (FBQ; Melchert & Sayger, 1998) was used to assess perceptions and memories of one's family of origin characteristics. The 179-item instrument includes a Total Scale measuring overall level of reported family of origin functioning as well as 22 subscales which include the following: Mother and Father Responsiveness (vs. emotional neglect), Mother and Father Acceptance (vs. emotional abuse), Physical Neglect, Mother and Father Physical Abuse, Sexual Abuse, Mother and Father Educational Involvement, Parental Control (from autocratic to permissive), Mother and Father Decision Making Style (from clear, reasonable, flexible, and fair to its opposite), Chores (frequency and range of chores performed), Expression of Affect (level of openness regarding the communication of emotion), Mother and Father Substance Abuse, Mother and Father Psychological Adjustment, Parental Coalition (from conflictual to cooperative), Child Social Support, and Family Stressors (deaths, serious injuries or illness, criminal involvement by family members, and financial insecurity). Scores on the instrument range from one to five, with higher scores indicating higher levels of family functioning except for the Chores and Parental Control subscales. Data suggest the subscales are internally consistent (Cronbach alpha coefficients ranged from .76 to .96) and temporally stable (test-retest coefficients over a two-week interval ranged from .59 to .93). The Cronbach alpha and test-retest coefficients for the Total Scale are .98 and .96. The validity of scores on the instrument is

supported by a Total Scale correlation of .73 obtained between same-sexed siblings from the same families, findings of substantial differences between control groups and groups expected to have lower levels of family of origin functioning, and factor analytic results which supported the comprehensive scale structure of the instrument Melchert 1998, Melchert and Sayger 1998. All of the subscales were used in this study because a comprehensive examination of family influences on childhood memory was considered more likely to detect significant effects which might be missed if only global scores or particular family variables were examined.

A questionnaire inquiring about several aspects of childhood memory including memory for abuse was also administered to the participants (see Melchert, 1996, and below for the exact wording of those items). The items used to elicit the content of participants' first and recovered childhood memories read as follows: After being asked their age in their earliest memory, participants were asked, "What is your earliest memory of?" After being asked if they had recalled events from their childhoods that they had not remembered before, they were asked, "If you have remembered new things from your childhood, which kinds of things have you remembered?"

The Center for Epidemiologic Studies-Depression (CES-D) Scale (Radloff, 1977) and the Costello-Comrey Anxiety Scale (Costello & Comrey, 1967) were used to measure depressed and anxious mood. Scores on the 20-item CES-D range from 0 to 60. Internal consistency reliability coefficients range from .85 to .90, and test-retest reliability coefficients ranging from .51 to .67 have been obtained over intervals of 2 to 8 weeks. Scores on the instrument also correlate highly with other depression scales, discriminate well between psychiatric inpatients and nonclinical samples, and are sensitive to change in clients' status following treatment Radloff 1977, Ensel 1986. Scores on the nine-item Costello-Comrey Anxiety Scale range from 9 to 81, and the scale has split-half and test-retest reliability coefficients of .70 and .72. Scores on the instrument correlate highly with other anxiety scales and discriminate between client groups rated high and low in anxiety by their psychiatrists.

Procedure

The participants were assured anonymity and confidentiality regarding all aspects of their participation in the study. The study questionnaires were administered in large lecture halls to groups of 68 to 98 participants, and no two participants were allowed to sit next to each other so that they had some privacy when completing the questionnaires. In an attempt to avoid demand characteristics, participants were told that they would be asked about a wide range of childhood experiences, but they were not told that the study was examining questions related to the recovered child abuse memory controversy.

The content of participants' first and recovered memories was analyzed using a content analysis procedure (Rosenthal & Rosnow, 1991). Several of the participants' responses were not classifiable (e.g., "not sure," "if someone tells stories sometimes I can recall stuff from very young") or participants left the items blank. As a result, 92% of the first childhood memories were classifiable, and 75% of the recovered childhood memories were classifiable (63% of the total sample reported recovering memories from their childhoods in general). A total of 14 categories were developed to obtain a relatively high level of specificity for the content of the memories reported while also allowing adequate numbers of cases per category for reliable analysis (see Table 3). The responses to these questions were independently sorted by two raters, and there was an 85% level of agreement between

the sorts. Disagreements were resolved by developing consensus between the two raters on the most accurate categorization.

Results

General quality of childhood memory

The participants were asked to indicate their age in their earliest memory and rate the quality of their childhood memory for ages 2, 5, 7, and 10 on a scale ranging from 1 ("no memories at all") to 5 ("very clear—there are no periods that I cannot remember"). As a group, the participants indicated that they were quite young in their earliest memories (*M* = 3.67 years, *SD* = 2.12). There also was consistent improvement in the reported quality of memory from age 2 to age 10 (*t* values for differences between ages 2 and 5, 5 and 7, and 7 and 10 were all significant at $p < .001$; see Melchert, 1996, for detailed results regarding these items). To obtain a single, more reliable measure of general quality of childhood memory, the responses to the above five memory items were combined. The responses to these items were first converted to *z*-scores (because one of the items used a different metric than the other four). The scores to the four items inquiring about memory quality at ages 2, 5, 7, and 10 were then summed (higher scores indicate better memory) and the inverse of scores for the fifth item were added to that subtotal (younger ages in one's first memory indicate better memory). The resulting measure was internally consistent (Cronbach *alpha* = .82, range of item-total correlations = .47 to .74), suggesting that individuals reliably report that they experience differences in the general quality of their childhood memories. There also was a large amount of individual variation in scores on this measure (*M* = .05, *SD* = 3.76, *range* = 13.61–13.12).

To address the first two study hypotheses, correlations were computed between the general quality of childhood memory scores and each of the FBQ subscales and mood scales (see Table 1). Most of these correlations are nonsignificant or very weak. To clarify the pattern of relationships between childhood memory and the family history and mood variables, a stepwise multiple regression analysis was performed on the general quality of childhood memory scores (see Table 2). The strongest predictor of childhood memory was the Expression of Affect subscale: Higher scores for level of emotional expressiveness in the family of origin were associated with higher quality of childhood memory scores. The amount of variance in childhood memory accounted for by all of the predictor variables, however, was only 6%.

Table 1. Family Background Questionnaire and Mood Scores and Correlations with General Quality of Childhood Memory

Scale	***M***	***SD***	***r* with General Childhood Memory**
Mother Responsiveness	4.34	.84	.10
Father Responsiveness	4.01	.45	.11
Mother Acceptance	4.37	.64	.04
Father Acceptance	4.25	.71	.06
Mother Physical Abuse	4.10	.99	−.03
Father Physical Abuse	4.06	.98	.02
Sexual Abuse	4.92	.25	−.03

Scale	*M*	*SD*	*r* with General Childhood Memory
Physical Needs Met	4.71	.45	.03
Mother Educational Involvement	4.03	.69	.16**
Father Educational Involvement	3.83	.85	.12
Behavioral Control	3.70	.62	.03
Chores	2.81	.99	.01
Expression of Affect	3.71	.89	.17**
Mother Decision Making Style	3.87	.76	.14*
Father Decision Making Style	3.73	.83	.11
Mother Substance Abuse	4.66	.58	.03
Father Substance Abuse	4.23	1.04	.01
Mother Psychological Adjustment	4.45	.46	.07
Father Psychological Adjustment	4.39	.52	.07
Parental Coalition	4.18	.58	.11
Child Social Support	3.97	.71	.07
Family Stressors	4.61	.49	.03
Depression	17.9	12.5	−.16**
Anxiety	38.7	11.2	−.16**

*
p < .01;
**
p < .001.

Table 2. Stepwise Multiple Regression Results for General Quality of Childhood Memory Scores (***N* = 553)**

Independent Variable	*R*	Beta Weight	sr^2
Expression of Affect	.17	.17	.03*
Anxiety	.22	−.16	.02*
Mother Acceptance	.24	−.15	.01*
Mother Educational Involvement	.26	.13	.01*

legend
Note. Adjusted R^2 = .06.
*
p < .001.

Content of first and recovered memories

The content of participants' first and recovered childhood memories was analyzed to test the last three study hypotheses. The participants' responses to the two items inquiring about the content of their first childhood memories and any childhood memories they recovered reflect a broad range of

experiences (e.g., from "Going to see 'Sesame Street' live," to "Kissing my great grandmother's forehead in her coffin—I didn't understand she was dead," and "My sister protecting me from my dad and getting severely beaten"). Memories of abuse were specifically mentioned too infrequently to warrant a separate category, though some participants may have been referring to abuse when they gave responses such as "Bad memories, traumatic events" or "Some things I really didn't want to remember such as times of trouble"—(these were categorized in the "Other Negative Event" group). As indicated in Table 3, no particular type of experience predominated for either the participants' first memories or their recovered memories. The distribution across categories for the first and recovered memories was also relatively similar. The only category for which there was more than a 10% difference in the frequency of occurrence between first and recovered memories was for "Other People."

Table 3. Content of First Memories and Recovered Memories (***n*** **and Percent)**

Category	**First Memory**	**Recovered Memories**
1. Deaths	9 (2)	3 (1)
2. Divorce, Parental or Family Conflict	16 (3)	2 (1)
3. Injury or Illness in Self	46 (9)	7 (3)
4. Other Negative Event	25 (5)	17 (7)
Negative subtotal	96 (19)	29 (12)
5. Birth or Pregnancy of a Sibling	16 (3)	1 (0)
6. Family Members (Including Second Degree Relatives)	47 (9)	38 (15)
7. Move of Residence	11 (2)	1 (0)
8. One's Home (Including Rooms in Home)	23 (5)	1 (0)
9. Other People (Babysitters, Neighbors, Friends, etc.)	13 (3)	43 (17)
10. Places (Cities, Areas, Including Vacation Destinations)	37 (7)	35 (14)
11. School Experiences (Including Daycare)	62 (12)	8 (3)
Neutral subtotal	209 (41)	127 (51)
12. Celebrations (Holidays, Birthdays, etc.)	54 (11)	20 (8)
13. Playing (and Recreational Activities) by Self or with Others	86 (17)	26 (10)
14. Other Neutral or Positive Event	61 (12)	49 (20)
Positive subtotal	201 (40)	95 (38)
Overall total	506 (100)	251 (100)

The categorizations of participants' first and recovered memories were compared to test the hypothesis that participants' recovered childhood memories would include a disproportionate number of negative memories which had originally been repressed or dissociated. The proportion of recovered memories which were relatively clearly negative in content (i.e., the first four categories in Table 3; 12%) was actually less than the proportion of the first memories recalled which were negative in content (19%). When these negative memories were compared with those which were generally neutral (categories 5 through 11) or positive in content (categories 12, 13, and 14), there was no

statistically significant difference between the first and recovered childhood memories for those participants who described the content of both types of memory, $\chi^2(4, N = 246) = 4.10$, $p = .39$.

A multiple discriminant analysis was conducted to test the hypothesis that current depressed or anxious mood would be associated with reporting first memories that are negative in content (the family history variables were also included to help identify potentially confounded relationships between family history, mood, and memory content). To have an adequate number of cases for each dependent variable, the two categories with the smallest numbers of cases were combined with related categories (categories 1 and 4 were combined, and categories 7 and 8 were combined), creating 12 categories with the smallest having 11 cases. There were 17.71 cases per independent variable in the analysis ($n = 425$). The stepwise estimation method was used to derive the discriminant functions, and the Mahalanobis D^2 procedure was used for determining the level of significance associated with the functions. The classification accuracy (hit ratio) achieved by the analysis was 18%, which is 75% greater than that expected by the proportional chance criterion of 10%—(Hair, Anderson, Tatham, & Black, 1996, suggest that correct classifications should exceed this criterion by at least 25% for an analysis to be considered significant).

The analysis found two reliable discriminant functions, the first accounting for 48% of the variance, $\chi^2(33) = 76.31$, $p < .0001$, and the second accounting for 36% of the variance, $\chi^2(20) = 39.88$, $p = .005$. The discriminant loadings and the coefficients of the group centroids for the two functions are found in Table 4. The group means for the predictor variables for Function 1 (available from the author) indicate that the participants in group 2 (i.e., first memories of divorce, parental, or family conflict) obtained the lowest Parental Coalition, Mother and Father Psychological Adjustment, and the second lowest Mother and Father Acceptance scores of any of the groups. The group means for Function 2 found that participants with first memories which fell into the category of “Places” had the lowest Father Responsiveness scores and the second lowest Father Educational Involvement scores of any of the groups. Depression and anxiety scores were not significant predictors for either of the functions. When a second multiple discriminant analysis was conducted using the same independent variables for predicting the negative, neutral, and positive groupings of the first memory categories, none of the discriminant functions was significant.

Table 4. Results of Multiple Discriminant Analysis for First Memories

Predictor Variable	**Correlations Between Predictor Variables and Discriminant Functions**		**Univariate *F*(11, 413) for Differences Between Memory Groups**
	1	**2**	
Parental Coalition	.93	.36	3.32∗∗
Mother Psychological Adjustment	.62	.24	2.20∗
Father Psychological Adjustment	.59	.40	2.57∗∗
Mother Acceptance	.53	.10	1.01
Father Acceptance	.51	.21	1.79∗

Predictor Variable	Correlations Between Predictor Variables and Discriminant Functions		Univariate *F*(11, 413) for Differences Between Memory Groups
	1	2	
Mother Decision Making Style	.48	.21	1.88∗
Father Decision Making Style	.45	.41	2.18∗
Family Stressors	.44	.17	2.50∗∗
Mother Responsiveness	.38	.36	1.63
Father Substance Abuse	.38	.11	1.55
Mother Educational Involvement	.35	.31	2.06∗
Father Physical Abuse	.35	−.01	1.29
Mother Physical Abuse	.34	.10	.94
Sexual Abuse	.20	.14	1.04
Depression	−.18	−.07	.90
Mother Substance Abuse	.18	.01	.90
Chores	−.16	−.04	.91
Anxiety	−.10	−.14	1.01
Physical Needs Met	−.13	−.06	1.49
Father Responsiveness	.29	.74	2.11∗
Father Educational Involvement	.31	.55	1.79
Expression of Affect	.32	.46	1.91∗
Child Social Support	.12	.32	.72
Behavioral Control	−.03	−.16	1.28

Group	Group Centroid	
	Function 1	Function 2
1 and 4	−.43	.02
2	−1.04	−.10
3	.44	.20
5	.17	−.35
6	−.04	.26
7 and 8	.45	.08
9	.53	−.30
10	.13	−.68
11	.00	−.01
12	.03	.32
13	−.14	−.07

14 −.11 .04

*
$p < .05$;
**
$p < .01$.

Another multiple discriminant analysis was conducted to test the hypothesis that current depressed or anxious mood would be associated with recovering memories of negative childhood experiences (the family history variables were again included to help identify potentially confounded variables). Because the *N* for this analysis was smaller, there were several categories of recovered memory content with insufficient numbers for analysis, so the negative, neutral, and positive groupings were used instead. Using the same procedural steps as the analysis described above, a correct classification rate of 55% was achieved, which is 33% better than that expected by the proportional chance criterion (41%). Both of the discriminant functions obtained in this analysis were reliable, the first accounting for 79% of the variance, $\chi^2(10) = 58.87$, $p < .0001$, and the second accounting for 21% of the variance, $\chi^2(4) = 13.33$, $p < .01$. The discriminant loadings and the coefficients of the group centroids for these two functions are found in Table 5. The group means for the predictor variables for Function 1 (available from the author) indicate that the negative memory group reported greater sexual abuse, physical abuse by father, and higher depression scores than the other two groups. The results for Function 2 indicate that the neutral memory group had the highest scores of any of the three groups for Child Social Support, and the positive memory group had the lowest scores for Behavioral Control (indicating more behavioral restrictiveness).

Table 5. Results of Multiple Discriminant Analysis for Recovered Memorieslegend

Predictor Variable	**Correlations Between Predictor Variables and Discriminant Functions**		**Univariate *F*(2, 210) for Differences Between Memory Groups**
	1	**2**	
Sexual Abuse	.69	.11	12.28∗∗∗
Father Physical Abuse	.51	.43	8.05∗∗∗
Depression	−.50	.07	6.43∗∗
Father Acceptance	.48	.26	15.25∗∗∗
Father Psychological Adjustment	.48	.24	15.27∗∗∗
Father Responsiveness	.43	.21	12.62∗∗∗
Physical Needs Met	.39	.06	11.29∗∗∗
Parental Coalition	.39	.06	7.64∗∗∗
Family Stressors	.37	.08	2.95
Father Educational Involvement	.35	.07	7.13∗∗∗
Father Decision Making Style	.35	.25	6.15∗∗
Mother Psychological Adjustment	.34	.26	2.84

Predictor Variable	Correlations Between Predictor Variables and Discriminant Functions		Univariate *F*(2, 210) for Differences Between Memory Groups
	1	2	
Mother Acceptance	.33	.22	8.27***
Expression of Affect	.32	.24	5.31**
Mother Responsiveness	.27	.20	5.50**
Mother Educational Involvement	.27	.13	5.70**
Anxiety	−.23	.01	2.31
Father Substance Abuse	.22	.02	.48
Chores	−.18	.01	1.39
Mother Substance Abuse	.18	−.05	.36
Child Social Support	.21	.73	4.93**
Behavioral Control	−.34	.66	6.04**
Mother Physical Abuse	.37	.37	1.67
Mother Decision Making Style	.26	.30	2.98

Group	Group Centroid	
	Function 1	Function 2
1 (Negative Memories)	−1.34	−.05
2 (Neutral Memories)	.14	.24
3 (Positive Memories)	.23	−.31

legend
* $p < .05$;
**
$p < .01$;
***
$p < .001$.

Discussion

This appears to have been the first systematic examination of the content of individuals' recovered childhood memories and first childhood memories, and the study participants reported a wide range of experiences for both of these types of memory. The participants also reported a large amount of individual variation in the general quality of their childhood memory. The causes for these types of variation have been quite controversial in recent years but are not well understood. Therefore, the present study tested several hypotheses which were designed to help explain the poor childhood memory that some individuals report and the valence of the memories which individuals report recovering from their childhoods.

At best, only weak support was found for the study hypotheses. With regard to the hypothesis that family of origin dysfunction would be associated with poorer childhood memory, only 3 of the 22 FBQ

subscales were significantly correlated with general quality of childhood memory. The strongest of these correlations found that less expression of emotion within one's original family was associated with poorer childhood memory (.17). The direction of this correlation is generally consistent with the concept of repression, but the level of this and the other correlations was quite low.

Clear support for the hypothesis that current depressed mood would be associated with impaired memory for one's childhood also was not found. Though depression scores correlated .16 with general quality of childhood memory, the stepwise multiple regression did not find depression to be a significant predictor of quality of childhood memory. The study also did not find support for the mood-congruent memory hypothesis in terms of depression or anxiety being a significant predictor of the content of participants' first childhood memories. Depression scores were a significant predictor of negative recovered memory content, but the strongest predictor was sexual abuse, and paternal physical abuse also had the same level of predictive ability as the depression scores. Given that a reported history of sexual and physical abuse were relatively strong predictors of negative recovered memory content, it is probably more likely that current depressed mood was a consequence of the abuse rather than the cause of the negative recovered memories. This interpretation of the results suggests that naturally occurring depressed and anxious moods do not have strong effects on reporting negative first memories or negative recovered memories from childhood. This is only the first investigation of these questions, however, and more research must be conducted before firm conclusions can be drawn.

The hypothesis that there would be a disproportionate number of negative childhood memories among those that the participants reported recovering as compared to their first memories also was not supported. In fact, only 12% of the recovered memories reported were relatively clearly negative in content compared to 19% of the first memories reported. These findings do not support the repression and dissociation hypotheses, but it must be emphasized that they also do not disconfirm them because the hypothesis was based on two assumptions. First, it was assumed that participants' earliest memories would be more representative of their childhood experiences than their recovered memories. Though a literature search found no research that suggests that individuals' earliest memories tend to be distorted in terms of their valence, it is difficult to evaluate the accuracy of this assumption. If the participants' earliest memories tended to be negatively biased, however, it may have prevented the detection of a significant effect with regard to this hypothesis. The second assumption underlying this hypothesis was that participants' recovered memories would include a significant number of memories which had originally been repressed or dissociated. Many of the study participants reported recovering childhood memories, but it is possible that mechanisms other than repression or dissociation were responsible for the loss and later recall of virtually all of these memories. If this latter possibility is true, however, it suggests that repressed or dissociated childhood memories are only rarely, if ever, recovered by college students, despite the substantial prevalence of child abuse and recovered memories that they also report.

The lack of more significant findings in this study regarding the influence of family of origin dysfunction, mood, and repression or dissociation on childhood recall has important implications for clinical practice. Childhood history information is routinely gathered in mental health practice, and evidence of significant distorting effects on childhood recall has very important implications for the

assessments and treatment plans that are based on the personal history information that clients provide. Unfortunately, no more than tentative conclusions can be drawn from the present study, however, because all of the data analyzed were of unknown reliability. Both the dependent and independent variables were based on uncorroborated self-reported perceptions and memories, and it is possible that unreliability in these data obscured significant effects that otherwise would have been found. In addition, perhaps the relatively youthful sample in this study did not yet recover a significant number of repressed or dissociated childhood memories, though they eventually will. It is also possible that repressed or dissociated memories are rarely recovered by relatively high functioning college students while they are more commonly recovered in clinical populations with significant psychopathology.

The tentative results of this study showing a lack of evidence for strong distorting effects on the childhood recall of college students is consistent with a great deal of memory research that has found that autobiographical recall is often very detailed and accurate, that many children and adults are not susceptible to developing false memories, that the effect sizes in memory distortion studies are frequently quite small, and that individuals do not tend to exaggerate childhood adversity that they experienced Brewin et al 1993, Ceci and Bruck 1995, Lindsay and Read 1994, Maughan and Rutter 1997. On the other hand, there is also clear evidence of several significant distorting influences on autobiographical memory (e.g., Schachter, 1995). The widespread interest in the controversy regarding recovered child abuse memories is a reflection of the importance of these issues, while the contentiousness of that controversy is also a reflection of the need for more empirical research into these questions.

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