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A SURVEY OF DISSOCIATION, IDENTITY DISTRESS,  
AND REJECTION SENSITIVITY IN ADULT ADOPTEES

by

LEE J. MCLAMB

A thesis submitted in partial fulfillment of the requirements  
for the Honors in the Major Program in Psychology  
in the College of Sciences  
and in The Burnett Honors College  
at the University of Central Florida  
Orlando, Florida

Fall Term, 2019

Thesis Chair: Dr. Steven L. Berman, Ph.D.

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## **ABSTRACT**

This study quantitatively measures dissociation, rejection sensitivity, and identity distress among adults who experienced adoption as a child and the relationship between these factors. This study also compares groups of adoptees recruited through Amazon Mechanical Turk (MTurk) and social media to assess whether these two recruitment methods achieve similar results. An online survey was conducted of adopted adults and non-adopted adults to serve as controls using both MTurk and social media. A total of 539 participants were recruited representing 151 non-adopted individuals recruited exclusively through Mturk, and 388 adoptees, 247 of whom were recruited through MTurk and 141 through social media. Significant differences were found between adopted and non-adopted groups on the measures of dissociation, rejection sensitivity, and identity. Both rejection sensitivity and dissociation were also found to be significant mediating factors between adoption status and measures of identity. Significant differences were also found between adoptee recruitment methods on measures of dissociation, identity distress and rejection sensitivity with large effect sizes for dissociation and identity distress and a small effect size for rejection sensitivity. Implications for consideration in a clinical setting are discussed as well as potential areas of future research.

## **DEDICATION**

To Richard Uhrlaub for organizing the Male Adoptee Impact Summit  
and the men who show up there for themselves and each other.

## ACKNOWLEDGMENTS

Dr. Steven Berman for all your feedback, encouragement, and patience guiding me through the process and helping to learn from my errors along the way. You have been a great mentor and enabled me to make this a much better project and experience than anything I could have originally imagined possible.

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## INTRODUCTION

The development and challenges of persons who have experienced adoption have been the focus of numerous studies often resulting in inconsistent findings (Grotevant et al., 2006). Schechter (1960) observed that adoptees were greatly over-represented in the use of mental health services. While adoption is now viewed as a lifelong process (Lifton, 2002), one area which has not been investigated previously is the relationship between the perinatal environment, susceptibility to Posttraumatic Stress Disorder (PTSD), and how dissociation may factor into identity development and later experiences and behaviors in adolescence and adulthood.

The primary purpose of this study is to quantitatively measure dissociation, rejection sensitivity, and identity distress among adopted adults. Previous studies have found adopted children and adolescents to be higher in dissociation (Becker-Blease et al., 2015). Dissociation among adults who experienced adoption has only been studied with quantitative measures using groups recruited through Amazon's Mechanical-Turk (Olson, 2013). A further purpose in this study is to replicate Olson (2013) and expand the participant base to provide a comparison group of adopted adults independent of those recruited through Amazon's Mechanical-Turk, as the reliability of this recruitment method has never been tested in this population. Also, while previous studies have discussed how the identity development process can become extended and repetitious for adoptees (Dunbar & Grotevant, 2004), the relationship between identity, dissociation, and rejectivity among adopted individuals has never been studied.

While many studies have looked at the effect of adoption on children and adolescents, a much smaller number have investigated the experience of adoptees beyond emerging adulthood. This survey will expand the range of adoptee ages investigated. Additionally, since adopted

persons are over-represented in clinical practice, it is highly likely that clinicians will encounter adoptees. This survey provides insights for the clinician into coping mechanisms such as dissociation and sources of distress which otherwise might not be the initially identified complaint or considered when working with an adopted person.

## LITERATURE REVIEW

### Perinatal Environmental Impact

In addition to the normal stresses of late-term pregnancy, the mother who is considering placing a child for adoption is typically under some increased external stress which leads her to that decision. She is also compelled to attend to her emotional responses to that decision. Measurable differences have been found in infant cortisol and norepinephrine levels based on the mother's status as anxious, depressed, or the comorbid combination (Field et al., 2010). Additional findings included relative right frontal EEG activation, lower vagal tone, and lower scores on the Brazelton Neonatal Behavioral Assessment Scale. External factors which impact the mother have also been found to be reflected in their children. Brand, Engel, Canfield, and Yehuda (2006) studied the transmission of susceptibility to PTSD in the children of mothers who were in New York City during the World Trade Center attacks of 9/11. This study demonstrated that exposure to traumatic events in the mother's third trimester could lead to an increased susceptibility to PTSD in the children of those mothers who also developed PTSD. The impact of infant and child separation at birth has been studied extensively (Császár-Nagy & Bókkon, 2018). In their review, Császár-Nagy and Bókkon cite multiple lines of evidence in rodent, nonhuman primate, and humans, of disruptions leading to lasting effects on neurodevelopment which persisted later in life. As a result, they conclude that mother and child separation may be the cause of significant trauma resulting in lasting epigenetic changes and, for infants may be experienced as a subtype of PTSD (Császár-Nagy & Bókkon, 2018).

## Development in Adoption

Having experienced what has been called the “primal wound” (Verrier, 1993) of that initial separation, the adopted child continues to accumulate adoption related traumas (Lifton, 2002). Previously it was common practice for a child to spend several months in foster care between being separated from its mother and placed with its final adopting family. This, Lifton argues, creates a second separation trauma for the child. Another trauma then arises as the children begin to attempt to incorporate the fact and implications of adoption into their identity. These “genetic ghosts” of unknown information can haunt adoptees as they try to integrate the reality of adoption into their identity (Frisk, 1964). Lifton also uses the ghost metaphor but to describe those unknown parts of the adoptee’s identity as dissociated parts which are difficult to integrate into a coherent whole. Lifton describes this division as having both an “Artificial Self and the Forbidden Self, neither of which is completely true or completely false.”

While challenged to integrate these various selves and ghosts, the adopted person also continues to receive input on the perceptions of adoption from the family, society and the media. These inputs can take the form of microaggressions, microinsults, and microinvalidations (Sue et al., 2007). Garber and Grotevant (2015) investigated microaggressions toward adopted adolescents. Each microaggression within a theme was assigned an intensity code to reflect the participant feelings after experiencing the microaggression. Each theme was then assigned to one of three intensity levels, high, medium, or low based on the majority of the microaggression’s intensity codes. Themes which rated particularly high were those in which a basis for an attack was adoption status or through negative stereotyping of the birth parents. Themes rated as medium included in-house division in which the person expresses “feeling unwanted, slighted or

separate from the adoptive family”, made to feel not normal, and negative portrayal of adoption by society. Adoptees are also subject to messages received as a person with a stigmatized hidden identity. A stigmatized identity is one which is viewed as shaming or tainting oneself in the view of another person (Goffman, 1963). One risk of having a stigmatized identity which is also not readily apparent on inspection is, according to Goffman (1963), learning what people “really think.” Quinn and Chaudoir (2009) found that cultural stigma originates externally from the individual and is based on the stigma that peers and others attach to the label. This cultural stigma directly increased distress in participants with a stigmatized hidden identity. The increased distress was reflected by an increase in scores on a 20-item depression measure and a 54-item assessment of common physical symptoms and sensations.

### Dissociation

The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) defines dissociation as “The splitting off of clusters of mental contents from conscious awareness. The term is also used to describe the separation of an idea from its emotional significance and affect...[which] may allow the individual to maintain allegiance to two contradictory truths while remaining unconscious of the contradiction” (p. 820). In the trauma model of dissociation, dissociation is viewed as a psychobiological response to threat or danger to enhance survival during and after the event. Dissociation can take the form of automatic behavior, analgesia, depersonalization, and compartmentalizing of memories (Dalenberg et al., 2012). Adoption is typically not viewed as being closely associated with trauma. Henderson (2002) challenges that position and hypothesizes several factors which

prevent the connection between adoption and trauma. One is the “Feel good Model” which purports that adoptions are a “win-win-win” for all three parties involved in the adoption. Another is professional pride within the field of social work which is reluctant to acknowledge their participation in a traumatizing system. Additionally, there is a reluctance to pathologize adoption such as in David Kirshner’s “adopted child syndrome” (Kirschner, 1990). However, these positive portrayals gloss over the very real experiences of trauma discussed in the sections above. Henderson (2002) makes the comparison between combat experiences and adoption in that both are unique and stressful events which can lead those who experience them to develop pathological adjustments in response. Dissociation then can be viewed as the natural psychobiological response to threat or danger experienced by the adoptee posed by the recurring traumas of repeated separations neonatally as well as cumulative microaggression trauma experienced in youth and adolescence. This process which starts with the “hereditary ghosts” (Frisk, 1964), results in what is described by Lifton (2002) as development of the “Ghost Kingdom”; aspects of the adoptee’s history and identity which are different and viewed as unacceptable and must be held separate for the adoptee to have an identity which is functional within the adopted family.

### Observations in Adopted Children

Schechter (1960) noted that adopted children represented 13.3% of his patients while adoptees represented only 0.134% of the general population at that time or nearly one hundred times what would be expected based on the population. Of the 16 adoptees seen by Schechter, he noted that despite various reasons for the initial referral to his practice, their adopted status was found to be



significant in the dynamics and treatment of the problem which caused the original referral. Wierzbicki (1993) conducted a meta-analysis of 66 studies in which adoptees were overrepresented ( $d=1.38$ ). Academic problems and externalizing disorders were also found in higher numbers of adoptees compared to non-adoptees as well as a significantly higher rating of general severity of maladjustment. Data from the Colorado Adoption Project (Plomin & DeFries, 1983) longitudinal study was used to investigate differences in dissociation between adopted and non-adopted children over four years from ages 9 through 12 as rated by both parents and teachers (Becker-Blease et al., 2015). The dissociative behavior ratings by both teachers and parents were found to be stable across the four years and significantly higher for adopted children compared to nonadopted children.

### Observations in Adopted Adults

Westermeyer, Yoon, Amundson, Warwick, and Kuskowski (2015) used data from the National Epidemiological Survey on Alcohol and Related Conditions (NESARC) to compare seven personality disorders between adults who had been adopted and those who had not. The seven personality disorders examined were histrionic, antisocial, avoidant, paranoid, schizoid, obsessive-compulsive, and dependent personality disorder. The odds of a personality disorder were found to be 1.81 times higher in adoptees when compared with non-adoptees. In another study using the same NESARC data set, researchers found a 1.61-fold increase in the odds of any mood disorder and a 1.49-fold increase of any anxiety disorder when comparing adopted adults with non-adopted adults (Westermeyer et al., 2015). Grotevant, Lo, Fiorenza, & Dunbar (2017) examined challenges faced by emerging adopted adults using data from the longitudinal

Minnesota Texas Adoption Research Project (Grotevant, McRoy, Wrobel, & Ayers-Lopez, 2013). This sample of adoptees was chosen to minimize the many factors which might be confounding factors by using children placed for adoption as infants or newborns, with same-race families, and with little to no preplacement risks. These adoptees were then also grouped into one of four groups, unexamined, limited, unsettled, or integrated based on their levels of exploration, salience, positive and negative affect, internal-consistency, and flexibility (Dunbar, 2003). In what would be considered a low-risk sample of adoptees, adoptees who were found to be in the “unsettled” group as adolescents were found to have higher levels of internalizing behavior problems eight years later as they emerged into adulthood (Grotevant, Lo, Fiorenza, & Dunbar, 2017).

Olson (2013) conducted a survey looking at rejection sensitivity and dissociation between adopted and non-adopted adults. For the survey, Olson recruited individuals using Amazon.com Mechanical-Turk which offers online payment for completion of various tasks. While a significant correlation was found between rejection sensitivity and dissociation, adopted adults were not found to have significantly higher scores of dissociation or rejection sensitivity compared to controls and norms.

### Identity Distress

Identity development is typically viewed as a process which is mostly resolved with the transition to young adulthood (Erikson, 1959). However, for adoptees, this process can become extended and repetitious due to changes in the salience throughout life (Dunbar & Grotevant, 2004). The *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., [DSM-III],

American Psychiatric Association, 1980) presented a diagnostic category termed *Identity Disorder*, which defined the disorder as having a severe subjective distress regarding the inability to integrate aspects of the self. Identity disorder was reclassified as Identity Problem under the heading of “Other Conditions That May Be a Focus of Clinical Attention” in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [*DSM-IV*], American Psychiatric Association, 1994). Most recently the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. [*DSM-5*], American Psychiatric Association, 2013) also dropped the classification of Identity Problem. Although not currently recognized as a disorder or problem, identity remains a central issue within many disorders in the DSM-5 (Kaufman, Cundiff & Crowell, 2015). Many events have the potential to increase the salience of adoption and lead an adopted person to reevaluate their identity. These can include such things as the discovery of adoption status later in life (Perl & Markham, 1999), becoming a parent, death of the adopted parents, or reunion with the birth parents or family. Because these events have the potential to activate latent dissociated aspects, the process of identity redevelopment can be distressful and overwhelming (Grotevant, 1997). “Disturbed identity”, which includes confusion, fragmentation and discontinuity and even a “lack of identity” with feelings of being empty or broken may better capture the experiences of adults whose development did not follow a typical course (Kaufman, Cundiff & Crowell, 2015).

## **HYPOTHESES**

Hypothesis 1. Adoptees will score higher on the Dissociative Experiences Scale (DES) than among comparison control groups or the general population.

Hypothesis 2. Adoptees will demonstrate higher rejection sensitivity as measured by the Adult-Rejection Sensitivity Questionnaire (A-RSQ) than norms and among a comparison group of nonadopted adults.

Hypothesis 3. Adoptees will score higher on the Identity Distress Survey (IDS) than comparative norms of the general population, and a comparison group of nonadopted adults.

Hypothesis 4. On the Self-concept and Identity Measure (SCIM), adoptees will score higher than non-adoptees on disturbed identity and lack of identity, and lower on consolidated identity.

Hypothesis 5. Dissociation and rejection sensitivity will explain more of the variance in identity scores than adoption status alone.

Hypothesis 6. Dissociation and rejection sensitivity will mediate the relationship between adoption status and identity scores.

Hypothesis 7. There will be no group differences in scores on the DES, A-RSQ, and IDS between adopted participants recruited through Mechanical-Turk and adopted participants recruited through other means.

## METHOD

### Participants

Adults over the age of 18 were recruited for this study ( $N = 400$ ). Two groups were recruited through Amazon.com Mechanical-Turk representing adopted and nonadopted adults. A comparison group of adopted adults was recruited through social media and adoption support groups. Based on a priori analysis using  $\alpha = .05$  and a medium effect size,  $d = .5$ , a minimum of 53 participants would be required in each group to achieve a statistical power of .8.

Two hundred adults were recruited through M-Turk *without* requesting responses specifically from adoptees. Of these 200 respondents, one was excluded for failing to respond to enough questions to provide useful data. The remaining 151 who were not adopted, comprise the M-Turk Control (MTC) group. The mean time to complete the survey by the MTC group was 9.97 minutes with a standard deviation of 5.86 minutes.

Two hundred additional adults were recruited through M-Turk *specifically asking* and screening for adoptees. One respondent was excluded for failing to answer enough questions to provide useful data. Also included in this group are those adoptees who responded to the other MTurk survey. The resulting M-Turk Adoptee (MTA) group consisted of 247 participants (199 from the explicit adoption recruitment plus 48 incidentally picked up from the recruitment without adoption request). The mean time to complete the survey by the MTA group was 7.95 minutes with a standard deviation of 6.06 minutes.

One hundred forty-one adults were recruited through social media and emails to adoption support groups to comprise the Social Media Adoptee (SMA) group. The mean time to complete the survey by the SMA group was 21.58 (52.1) minutes.

A Pooled Adoptee (PA) group of 388 participants was created by combining the MTA ( $n = 247$ ) and SMA ( $n = 141$ ) groups.

Demographics for all for groups are summarized in Table 1 as percentages except for age variables which are reported as means with standard deviation in parenthesis.

Table 1  
Frequency distributions of demographic variables<sup>1</sup>

Characteristic	MTC ( $n = 151$ )	MTA ( $n = 247$ )	SMA ( $n = 141$ )	PA ( $n = 388$ )
<b>Sex</b>				
Male	62.3	64.0	10.6	35.8
Female	37.7	36.0	88.7	64.0
Transgender	0	0	0	0
Other	0.57	0	0.7	0.2
Age	36.79 (10.71)	32.71 (8.55)	51.16 (11.13)	42.93 (13.16)
<b>Education</b>				
Not completed high school	0	0	2.1	0.59
High school graduate / GED	11.3	6.1	5.0	7.1
Some college	33.8	34.0	35.0	31.8
College graduate or higher	55.0	59.9	57.9	60.5
<b>Ethnicity</b>				
White, non-Hispanic	76.8	75.8	92.9	85.0
Black, non-Hispanic	7.3	11.3	0	3.8
Hispanic or Latino/a	5.3	6.5	1.4	4.4

Characteristic	MTC ( <i>n</i> = 151)	MTA ( <i>n</i> = 247)	SMA ( <i>n</i> = 141)	PA ( <i>n</i> = 388)
Asian or Pacific Islander	6.6	2.0	0.7	1.6
Native American or Alaskan Native	2.0	3.2	1.4	1.6
Mixed ethnicity or Other	2.0	1.2	3.5	3.8
Age when adopted in months		3.74 (3.85)	0.66 (1.53)	2.62 (3.53)
Adopted by relative				
Yes		65.3	2.1	29.0
No		34.7	97.9	71.0
Adoption record status				
Open		62.5	4.3	30.2
Closed		37.5	95.7	69.8
In foster care > 1 year				
Yes		65.6	10.6	29.3
No		34.4	89.4	70.8
International adoption				
Yes		49.6	2.1	22.7
No		50.4	97.9	77.3
Lived in an institutional care setting for at least 6 months prior to adoption				
Yes		58.5	7.8	30.5
No		41.5	92.2	69.5
Removed by Child Protective Services due to a claim of abuse or neglect				
Yes		50.4	2.1	22.7
No		38.7	92.2	69.6

Characteristic	MTC	MTA	SMA	PA
	(n = 151)	(n = 247)	(n = 141)	(n = 388)
Unknown		10.9	5.7	7.7

<sup>1</sup> Numbers are percentages except for age variables which are reported as means with standard deviation in parenthesis.

## Measures

All participants were presented with an online survey battery, which included a demographic section and the four measures described below. The measures can be seen in Appendix B.

### *Demographic Questionnaire*

Adapted from the original by Olson (2013) which asked participants to provide additional information regarding their current age, gender, nationality, whether their adoption was open or closed, domestic or international, whether or not they experienced institutional or foster care, or claims of abuse or neglect. An additional question was also added to provide the highest educational level achieved. No personally identifying information was collected.

### *Dissociative Experiences Scale II (DES-II)*

The Dissociative Experiences Scale II (Carlson & Putnam, 1993) is a 28-item questionnaire designed to measure types and frequency of dissociated experiences among participants. Participants are asked to rank the frequency of each experience on an 11-point



Likert scale ranging from 0% (never) to 100% (always). Reported internal consistency of the DES-II has been reported as .83 and test-retest reliability at .84.

### *Identity Distress Survey (IDS)*

The Identity Distress Scale (Berman, Montgomery, & Kurtines, 2004) is a 10-item measure used to assess overall identity discomfort. The Identity Distress Scale measures discomfort in terms of the time frame experienced, severity, and interference in daily functioning in regards to the following domains: religion, sexual orientation, goals, career choices, values, group affiliation, and friendships. Participants are asked to rank their discomfort on a 5-point Likert scale ranging from 1 (not at all) to 5 (very severely) on the domains above. Reported internal consistency of the Identity Distress Scale has been measured at .84, and test-retest reliability at .82.

### *Adult Rejection Sensitivity Questionnaire (A-RSQ)*

The Adult Rejection Sensitivity Questionnaire (Berenson et al., 2009) consists of nine hypothetical situations intended to measure rejection along two dimensions. The value dimension is indicated by selection on a 6-point Likert scale from 1 (very unconcerned) to 6 (very concerned). The expectancy dimension is indicated by selection on a 6-point Likert scale from 1 (very unlikely) to 6 (very likely). The two subscales are combined to create an overall score. The reported internal consistency for the individual dimensions has not been reported. The reported internal consistency of the overall A-RSQ score is .89.

### *Self-concept and Identity Measure (SCIM)*

The Self-concept and Identity measure (Kaufman, Cundiff & Crowell, 2014) is a 27 item self-report scale designed to assess dimensions of identity among adults in the form of an overall score and three sub-scales for disturbed identity, consolidated identity and lack of identity. Participants are asked to indicate their agreement or disagreement with each item on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Reported internal consistency of the SCIM-Total has been measured at .89, and test-retest reliability at .93. The reported internal consistency for the Disturbed, Consolidated and Lack of Identity subscales has been measured as .84, .73, and .87 respectively.

### Procedure

Approval of all materials and procedures was obtained from the University of Central Florida Human Research Protection Program Institutional Review Board (UCF IRB) prior to any participant recruitment or data collection and is shown in Appendix A.

Adults over the age of 18 were recruited for this study. To duplicate the methods of Olson (2013), two groups were recruited through Amazon.com Mechanical-Turk (MTurk). One group of 200 participants were recruited without requesting responses specifically from adoptees. The second group of 200 participants was recruited specifically requesting responses from adopted persons who had been adopted as a child. In the second group, those who answered “no” to the question “Were you adopted?” were screened out during the demographic questionnaire. To ensure privacy and confidentiality participants were directed from Mturk to an external web survey site (e.g., Qualtrics). On satisfactory completion of the survey, participants

were provided a code which allowed them to indicate completion on MTurk and receive payment of \$1 based on an estimated time of 10-15 minutes to complete the survey.

A comparison group of adopted persons was also recruited through social media and adoption support groups. Those who answered “no” to the question “Were you adopted?” or responded with an age of less than 18 were screened out during the demographic questionnaire. Since arranging payment to this group would require the collection of personal and identifying information, no payment was offered to this group.

After self-selection, all respondents were presented with the explanation of research which also included the required items of informed consent, the demographics questionnaire, DES-II, IDS, SCIM, A-RSQ, and a debriefing statement. The full survey package can be found in Appendix B. Data analysis was performed using IBM SPSS 24, G\*Power 3.1.92, and Microsoft Excel 2013.

## RESULTS

Descriptive statistics for each measure and group are presented including mean, standard deviation, median, and inter-quartile range. One-way ANOVA was conducted to compare differences between the MTC, MTA, and SMA groups on each measure. Where ANOVA indicated significant differences, Tukey HSD post hoc testing was reviewed. An independent samples *t*-test was used to compare the MTC and PA groups for each measure. Effect sizes were also calculated and for those cases with a small effect size a post-hoc analysis of achieved power was performed.

### Dissociative Experiences Scale II (DES-II)

The DES-II (Carlson & Putnam, 1993) is a 28-item questionnaire designed to measure types and frequency of dissociated experiences among participants. Individual DES-II scores are obtained by summing the value from each of the 28-items and dividing the sum by 28. Of the MTC group, 98.0% ( $n = 148$ ) completed the DES-II, while 89.5% ( $n = 221$ ) of the MTA group completed this measure. In the SMA group, 99.3% ( $n = 140$ ) completed this measure. Summary scores for each group are reported in Table 2. The calculated reliability of the measure in this survey is .99.

Table 2  
DES-II Group score summary

	MTC	MTA	SMA	PA (MTA+SMA)
	(n = 148)	(n = 221)	(n = 140 )	(n = 361)
Mean	17.35 <sup>1,2</sup>	49.39 <sup>1,3</sup>	11.86 <sup>3</sup>	34.69 <sup>2</sup>
Standard deviation	20.36	30.36	11.65	30.86
Median	9.29	58.21	8.21	19.29
Inter-quartile range	14.91	60.00	10.89	57.86

*Note:* Like superscript indicates a significant difference

There was a significant effect on DES-II Score,  $F(2, 507) = 137.62, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the mean DES-II score for the MTC group ( $M = 17.35, SD = 20.36$ ) was significantly lower and with a large effect size than the MTA group ( $M = 43.39, SD = 30.39$ ),  $p < .001, d = 1.20$ . The difference in mean scores between the MTA and SMA ( $M = 11.86, SD = 11.65$ ) groups was also significantly different with a large effect size,  $p < .001, d = -1.51$ . Based on Welch's *t*-test, a significant difference and moderate effect size was also found between the MTC group and PA group ( $M = 34.69, SD = 30.86$ ),  $t(407.01) = 7.43, p < .001, d = 0.62$ . This result confirms Hypothesis 1, that adoptees will score higher on the DES-II than the comparison control group. The difference in mean scores between the MTC and SMA ( $M = 11.86, SD = 11.65$ ) groups was not significantly different,  $p = .114$ .

In this study 16.9% ( $n = 25$ ) of the MTC group, 68.3% ( $n = 151$ ) of the MTA group, 7.1% ( $n = 10$ ) of the SMA group, and 44.6% ( $n = 161$ ) of the PA group scored above the screening cutoff score of 30 proposed by Carlson et al. (1993) respectively.

DES-II scores for each adoptee group by demographic sub-group is shown in Table 3. Effect size,  $d$ , is reported for each case where a significant difference was found between the Yes and No options.

Table 3  
DES-II score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	141	63.00	24.50	79	25.01	24.20	11.08	< .001	1.56			
	SMA	3	24.17	15.21	138	11.53	11.47	1.88	.061				
	PA	144	62.19	24.93	217	16.44	18.36	20.11	< .001	2.16			
Open adoption record													
	MTA	135	58.86	27.93	85	34.26	28.17	6.37	< .001	0.88			
	SMA	6	9.11	5.90	135	11.93	11.82	-0.58	.562				
	PA	141	56.75	29.14	220	20.55	22.55	13.28	< .001	1.43			
In foster care > 1 year													
	MTA	139	64.09	23.39	81	24.07	23.79	12.22	< .001	1.71			
	SMA	14	16.58	12.31	127	11.27	11.49	1.64	.103				
	PA	153	59.74	26.43	208	16.26	18.39	18.48	< .001	1.97			
International adoption													
	MTA	105	71.06	17.83	115	29.54	25.66	13.88	< .001	1.87			
	SMA	3	19.64	3.62	137	11.66	11.73	1.18	.239				
	PA	108	69.63	19.52	252	19.82	21.29	20.91	< .001	2.40			
Institutional care setting for at least 6 months prior to adoption													
	MTA	125	65.36	23.43	95	28.29	25.36	11.27	< .001	1.53			
	SMA	12	18.01	18.38	129	11.22	10.73	1.97	.051				
	PA	137	61.21	26.62	224	18.46	20.22	17.30	< .001	1.88			
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	108	64.80	25.81	86	31.50	26.91	8.80	< .001	1.27	26	44.29	25.36
	SMA	3	22.02	7.57	130	11.40	11.80	1.56	.121		8	14.38	8.47
	PA	111	63.64	26.41	216	19.40	21.61	16.27	< .001	1.90	34	37.25	25.85

## Identity Distress Survey (IDS)

The Identity Distress Scale (Berman, Montgomery, & Kurtines, 2004) is a 10-item measure used to assess overall identity discomfort. Individual IDS scores are obtained by summing the value from each of first 7-items and dividing the sum by 7. All of the MTC group ( $n = 151$ ) completed the IDS, while 98.0% ( $n = 242$ ) of the MTA group completed this measure. In the SMA group, 99.3% ( $n = 140$ ) completed this measure. Summary scores for each group are reported in Table 4. The calculated reliability of the measure in this survey is .91.

Table 4  
IDS Group score summary

	MTC	MTA	SMA	PA (MTA+SMA)
	( $n = 151$ )	( $n = 242$ )	( $n = 140$ )	( $n = 382$ )
Mean	1.86 <sup>1,2</sup>	2.98 <sup>1,3</sup>	1.82 <sup>3</sup>	2.57 <sup>2</sup>
Standard deviation	0.77	1.10	0.58	1.10
Median	1.57	3.29	1.71	2.29
Inter-quartile range	0.93	1.96	0.86	2.00

*Note:* Like superscript indicates a significant difference

There was a significant effect on IDS Score,  $F(2, 531) = 113.68, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the mean IDS score for the MTC group ( $M = 1.86, SD = 0.77$ ) was significantly lower with a large effect size compared to the MTA group ( $M = 2.98, SD = 1.10$ ),  $p < .001, d = 1.13$ . There was also a significant difference with large effect



size between the MTA and SMA groups,  $p < .001$ ,  $d = -1.23$ . Based on Welch's  $t$ -test, a significant difference and moderate effect size was also found between the MTC group and PA group ( $M = 2.57$ ,  $SD = 1.10$ ),  $t(389.76) = 8.36$ ,  $p < .001$ ,  $d = 0.70$ . This result confirms Hypothesis 3, that adoptees will score higher on IDS than a comparison group of nonadopted adults. The difference in mean scores between the MTC and SMA ( $M = 1.82$ ,  $SD = 0.58$ ) groups was not significantly different,  $p = .890$ .

In this study 7.9% ( $n = 12$ ) of the MTC group, 44.6% ( $n = 108$ ) of the MTA group, 5.7% ( $n = 8$ ) of the SMA group, and 30.4% ( $n = 116$ ) of the PA group would meet the *DSM-III* criteria for Identity Disorder respectively. Additionally, 29.8% ( $n = 45$ ) of the MTC group, 67.8% ( $n = 164$ ) of the MTA group, 34.3% ( $n = 48$ ) of the SMA group, and 55.5% ( $n = 212$ ) of the PA group would meet the *DSM-IV* criteria for Identity Problem<sup>1</sup>.

IDS scores for each adoptee group by demographic sub-group is shown in Table 5. Effect size,  $d$ , is reported for each case where a significant difference was found between the Yes and No options.

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<sup>1</sup> A true diagnosis should not be made based on a self-report survey alone, but instead should include a clinical interview.

Table 5  
IDS score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	155	3.47	0.88	86	2.17	0.94	10.73	< .001	1.44			
	SMA	3	2.33	0.59	138	1.80	0.58	1.59	.115				
	PA	158	3.45	0.89	224	1.94	0.76	17.82	< .001	1.85			
Open adoption record													
	MTA	150	3.37	0.95	91	2.41	1.07	7.29	< .001	0.97			
	MA	6	1.79	0.28	135	1.81	0.59	-0.12	.904				
	PA	156	3.31	0.98	226	2.06	0.87	13.22	< .001	1.38			
In foster care > 1 year													
	MTA	157	3.52	0.82	84	2.06	0.90	12.73	< .001	1.72			
	SMA	15	1.73	0.62	126	1.82	0.58	-0.57	.570				
	PA	172	3.36	0.95	210	1.92	0.73	16.81	< .001	1.73			
International adoption													
	MTA	117	3.72	0.65	124	2.34	1.01	12.52	< .001	1.61			
	MA	3	1.52	0.58	137	1.82	0.58	-0.88	.383				
	PA	120	3.66	0.73	261	2.07	0.85	17.71	< .001	1.95			
Institutional care setting for at least 6 months prior to adoption													
	MTA	139	3.60	0.81	102	2.21	0.91	12.46	< .001	1.62			
	SMA	12	1.70	0.53	129	1.82	0.59	-0.70	.487				
	PA	151	3.44	0.94	231	1.99	0.77	16.47	< .001	1.72			
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	122	3.48	0.92	92	2.43	1.07	7.68	< .001	1.06	27	2.83	0.93
	MA	3	2.24	0.44	130	1.81	0.58	1.29	.198		8	1.75	0.71
	PA	125	3.45	0.93	222	2.07	0.87	13.85	< .001	1.55	35	2.58	0.99

## Adult Rejection Sensitivity Questionnaire (A-RSQ)

In the 9-item Adult Rejection Sensitivity Questionnaire (Berenson et al., 2009), two questions are used in each hypothetical situation to measure rejection along two dimensions, the value dimension, and an expectancy dimension. The score for each situation is obtained by multiplying the response to the first question by the reverse of the response to the second question. The overall individual's score for the A-RSQ is the mean of the scores for the seven situations. Of the MTC group, 99.3% ( $n = 150$ ) completed the A-RSQ, while 99.2% ( $n = 245$ ) of the MTA group completed this measure. In the SMA group, 95.7% ( $n = 135$ ) completed this measure. Summary scores for each group are reported in Table 6. The calculated reliability of the measure in this survey is .85.

Table 6  
A-RSQ Group score summary

	MTC	MTA	SMA	PA (MTA+PA)
	( $n = 150$ )	( $n = 245$ )	( $n = 135$ )	( $n = 380$ )
Mean	9.15 <sup>1,2</sup>	10.25 <sup>3</sup>	11.62 <sup>1,3</sup>	10.73 <sup>2</sup>
Standard deviation	4.30	3.41	6.71	4.89
Median	9.39	10.44	11.22	10.67
Inter-quartile range	6.19	3.78	9.33	4.67

*Note:* Like superscript indicates a significant difference

There was a significant effect on A-RSQ Score,  $F(2, 528) = 9.58, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the mean A-RSQ score for the MTC group ( $M =$

9.15,  $SD = 4.30$ ) was significantly lower with a small effect size compared to the SMA ( $M = 11.62$ ,  $SD = 6.71$ ),  $p < .001$ ,  $d = 0.44$ . Due to the small effect size, a post-hoc power analysis was conducted which showed an achieved power of .98. Based on Welch's  $t$ -test, a significant difference and small effect size was also found between the MTC group and PA group ( $M = 10.73$ ,  $SD = 4.89$ ),  $t(308.48) = 3.68$ ,  $p < .001$ ,  $d = 0.33$ . Due to the small effect size, a post-hoc power analysis was conducted which showed an achieved power of .96. This result confirms Hypothesis 2, that adoptees will demonstrate higher rejection sensitivity as measured by the A-RSQ) than comparison group of nonadopted adults. The difference in mean scores between the MTC and MTA group ( $M = 10.25$ ,  $SD = 3.41$ ) groups was not significantly different,  $p = .062$ . The difference in mean scores between the MTA and SMA groups was significantly different with a small effect size,  $t(378) = 2.64$ ,  $p = .009$ ,  $d = .28$ .

Hypothesis 6 which proposed that there will be no group differences in scores on the DES, A-RSQ, and IDS between adopted participants recruited through Mechanical-Turk and adopted participants recruited through other means was not confirmed. There were significant differences between the MTA and SMA groups on all three measures with large effect sizes for the DES and IDS and a small effect size for the A-RSQ.

ARS-Q scores for each adoptee group by demographic sub-group is shown in Table 7. Effect size,  $d$ , is reported for each case where a significant difference was found between the Yes and No options.

Table 7  
 ARS-Q score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	158	10.70	2.89	86	9.46	4.12	2.74	.007	0.37			
	SMA	3	21.70	14.43	133	11.35	6.36	2.73	.007	1.59			
	PA	161	10.90	3.61	219	10.61	5.65	0.58	.566				
Open adoption record													
	MTA	153	10.70	3.19	91	9.52	3.67	2.64	.009	0.35			
	SMA	6	6.80	5.19	130	11.80	6.70	-1.82	.072				
	PA	159	10.55	3.34	221	10.86	5.75	-0.61	.539				
In foster care > 1 year													
	MTA	159	10.88	2.99	84	9.10	3.88	3.99	< .001	0.54			
	SMA	14	11.10	7.00	122	11.63	6.70	-0.28	.778				
	PA	173	10.90	3.45	206	10.60	5.84	0.59	.557				
International adoption													
	MTA	120	10.66	2.57	124	9.88	4.04	1.80	.073				
	SMA	3	13.19	7.52	132	11.38	6.47	0.48	.632				
	PA	123	10.72	2.75	256	10.65	5.47	0.13	.898				
Institutional care setting for at least 6 months prior to adoption													
	MTA	142	10.67	2.86	102	9.69	4.02	2.23	.027	0.29			
	SMA	12	10.06	5.53	124	11.73	6.81	-0.83	.411				
	PA	154	10.62	3.12	226	10.81	5.80	-0.37	.715				
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	123	10.60	2.92	94	9.59	3.99	2.15	.033	0.29	27	11.04	3.06
	SMA	3	16.11	9.25	125	11.50	6.75	1.17	.244		8	11.11	5.02
	PA	126	10.73	3.22	219	10.68	5.80	0.08	.933		35	11.05	3.51

## Self-concept and Identity Measure (SCIM)

The Self-concept and Identity measure (Kaufman, Cundiff & Crowell, 2014) is a 27 item self-report scale designed to assess dimensions of identity among adults in the form of an overall score and three sub-scales for disturbed identity, consolidated identity and lack of identity. The SCIM-Total score is the mean of all 27-items, recoded such that higher scores mark greater identity disturbance. For the SCIM sub-scales, the Disturbed sub-scale is the mean of 11 items, the Consolidated sub-scale is the mean of 10 items, and the Lack sub-scale is the mean of the remaining six items. The number of participants in each group completing each scale of the SCIM as well as summary scores for each group is reported in Table 8. The calculated reliability of the overall measure in this survey is .91.

Table 8  
SCIM Group summary scores

Measure	MTC	MTA	SMA	PA
SCIM-Total				
<i>n</i>	149	240	140	380
Mean	102.58 <sup>1,2</sup>	126.02 <sup>1</sup>	100.44	116.48 <sup>2</sup>
Standard deviation	22.04	27.67	13.82	26.64
Median	96.00	129.00	100.00	110.50
Inter-quartile range	23.50	46.00	17.75	43.75
SCIM-Disturbed				
<i>n</i>	149	245	140	385
Mean	18.87 <sup>1,2</sup>	29.07 <sup>1</sup>	17.40	24.77 <sup>2</sup>
Standard deviation	9.16	10.29	7.22	10.87

Measure	MTC	MTA	SMA	PA
Median	16.04	32.05	16.65	24.10
Inter-quartile range	12.13	15.90	9.74	19.52
SCIM-Consolidated				
<i>n</i>	151	244	141	385
Mean	24.85 <sup>1,2</sup>	24.05	23.66 <sup>1</sup>	23.91 <sup>2</sup>
Standard deviation	3.66	3.53	4.33	3.84
Median	25.42	24.45	24.38	24.39
Inter-quartile range	4.51	4.53	5.87	5.05
SCIM-Lack				
<i>n</i>	151	244	140	384
Mean	11.78 <sup>1,2,3</sup>	18.12 <sup>1</sup>	14.16 <sup>3</sup>	16.65 <sup>2</sup>
Standard deviation	6.54	7.50	6.98	7.57
Median	10.25	20.60	13.63	17.77
Inter-quartile range	8.85	12.87	11.82	13.45

*Note:* Like superscript indicates a significant difference

There was a significant effect on SCIM Total Score,  $F(2, 527) = 74.37, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the mean SCIM Total score for the MTC group ( $M = 102.58, SD = 22.04$ ) was significantly lower with a large effect size compared to the MTA group ( $M = 126.02, SD = 27.67$ ),  $p < .001, d = 0.92$ . Based on Welch's *t*-test, a significant difference and moderate effect size was also found between the MTC group and PA group ( $M = 116.48, SD = 26.64$ ),  $t(324.47) = 6.14, p < .001, d = 0.70$ . The difference in mean scores between the MTC and SMA ( $M = 100.44, SD = 13.82$ ) groups was not significantly different,  $p = .673$ .

There was a significant effect on SCIM-Disturbed subscale,  $F(2, 532) = 94.16, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the MTC group ( $M = 18.87, SD = 9.16$ ) was significantly lower with a large effect size compared to the MTA group ( $M = 29.07, SD = 10.29$ ),  $p < .001, d = 1.04$ . Based on Welch's  $t$ -test, a significant difference and moderate effect size was also found between the MTC group and PA group ( $M = 24.77, SD = 10.87$ ),  $t(316.88) = 6.37, p < .001, d = 0.57$ . The difference in mean scores between the MTC and SMA ( $M = 17.40, SD = 7.22$ ) groups was not significant,  $p = .361$ .

There was a significant effect on SCIM-Consolidated subscale,  $F(2, 534) = 3.84, p = .022$ . Post hoc analysis using the Tukey HSD test indicated that the MTC group ( $M = 24.85, SD = 3.66$ ) was significantly higher with a large effect size compared to the SMA group ( $M = 23.66, SD = 4.33$ ),  $p = .020, d = 1.04$ . Based on Student's  $t$ -test, there was a significant difference and small effect size between the MTC group and PA group ( $M = 24.05, SD = 3.53$ ),  $t(534) = -2.59, p = .010, d = -0.25$ . Due to the small effect size, a post-hoc power analysis was conducted which showed an achieved power of .83. The difference in mean scores between the MTC and MTA ( $M = 24.05, SD = 3.53$ ) groups was not significant,  $p = .104$ .

There was a significant effect on the SCIM-Lack subscale score,  $F(2, 533) = 39.74, p < .001$ . Post hoc analysis using the Tukey HSD test indicated that the mean SCIM-Lack subscale score for the MTC group ( $M = 11.78, SD = 6.54$ ) was significantly lower with a large effect size than the MTA group ( $M = 18.12, SD = 7.50$ ),  $p < .001, d = 0.89$ . Additionally, the MTC group was significantly lower with a small effect size than the SMA group ( $M = 14.16, SD = 6.98$ ),  $p = .016, d = 0.35$ . Due to the small effect size, a post-hoc power analysis was conducted which showed an achieved power of .91. Finally, based on Welch's  $t$ -test, a significant difference and



moderate effect size was also found between the MTC group and PA group ( $M = 16.65$ ,  $SD = 7.57$ ),  $t(315.44) = 7.40$ ,  $p < .001$ ,  $d = .67$ .

Hypothesis 4 was confirmed. Adoptees did score significantly higher than non-adoptees on the SCIM disturbed identity and lack of identity sub-scales with moderate effect sizes of  $d = 0.57$  and  $d = 0.67$  respectively. Adoptees also scored significantly lower on the consolidated sub-scale as predicted with a small effect size,  $d = 0.25$ .

SCIM scores for the over all measure and each sub-scale for each adoptee group by demographic sub-group is shown in Tables 9 through 12. Effect size,  $d$ , is reported for each case where a significant difference was found between the Yes and No options.

Table 9  
 SCIM-Total score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	155	137.82	24.21	84	104.31	19.50	10.95	< .001	1.48			
	SMA	3	114.00	13.11	138	99.98	13.81	1.75	.082				
	PA	158	137.37	24.24	222	101.62	16.29	17.23	< .001	1.79			
Open adoption record													
	MTA	150	133.89	26.90	89	112.82	23.94	6.12	< .001	0.82			
	SMA	6	98.00	10.84	135	100.38	14.04	-0.41	.681				
	PA	156	132.51	27.33	224	105.32	19.54	11.34	< .001	1.18			
In foster care > 1 year													
	MTA	156	137.71	23.25	82	103.39	20.63	11.29	< .001	1.54			
	MA	15	101.87	12.99	126	100.09	14.04	0.47	.639				
	PA	171	134.56	24.70	208	101.39	16.98	15.48	< .001	1.60			
International adoption													
	MTA	119	144.40	20.44	120	107.84	21.28	13.60	< .001	1.76			
	SMA	3	104.33	15.70	137	100.19	13.96	0.51	.610				
	PA	122	143.41	21.22	257	103.76	18.13	18.86	< .001	2.07			
Institutional care setting for at least 6 months prior to adoption													
	MTA	139	140.31	22.92	100	106.21	20.81	11.84	< .001	1.55			
	SMA	12	96.50	15.79	129	100.63	13.73	-0.99	.323				
	PA	151	136.83	25.35	229	103.07	17.37	15.45	< .001	1.62			
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	121	139.65	24.29	93	110.01	24.87	8.80	< .001	1.21	25	119.80	18.27
	MA	3	117.33	12.06	130	100.18	13.66	2.17	.032	1.27	8	95.50	15.28
	PA	124	139.11	24.29	223	104.28	19.70	14.54	< .001	1.63	33	113.91	20.33

Table 10  
 SCIM-Disturbed score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative	MTA	158	33.48	8.14	86	20.95	8.85	11.19	< .001	1.50			
	SMA	3	19.33	13.38	138	17.30	7.10	0.48	.629				
	PA	161	33.22	8.42	224	18.70	8.00	17.22	< .001	1.78			
Open adoption record	MTA	152	32.01	9.54	92	24.20	9.71	6.18	< .001	0.82			
	SMA	6	15.27	5.03	135	17.44	7.29	-0.72	.470				
	PA	158	31.37	9.93	227	20.18	8.98	11.55	< .001	1.20			
In foster care > 1 year	MTA	159	33.40	7.97	84	20.71	9.03	11.31	< .001	1.53			
	SMA	15	17.58	6.73	126	17.32	7.29	0.13	.895				
	PA	174	32.04	9.03	210	18.67	8.18	15.24	< .001	1.56			
International adoption	MTA	121	35.92	5.83	123	22.32	9.25	13.77	< .001	1.76			
	MA	3	15.95	4.30	137	17.44	7.26	-0.36	.723				
	PA	124	35.44	6.55	260	19.75	8.60	18.02	< .001	1.97			
Institutional care setting for at least 6 months prior to adoption	MTA	142	34.11	7.63	102	22.03	9.41	11.10	< .001	1.44			
	SMA	12	15.22	4.38	129	17.54	7.40	-1.07	.284				
	PA	154	32.64	8.99	231	19.53	8.63	14.41	< .001	1.50			
Removed by Child Protective Services due to a claim of abuse or neglect	MTA	123	33.95	8.32	94	23.28	10.12	8.56	< .001	1.17	123	33.95	8.32
	SMA	3	22.69	9.91	130	17.26	7.13	1.30	.194		3	22.69	9.91
	PA	126	33.68	8.49	224	19.79	9.00	14.18	< .001	1.58	126	33.68	8.49

Table 11  
 SCIM-Consolidated score by demographic sub-group

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	159	24.12	3.47	84	23.94	3.67	0.38	.702				
	MA	3	21.61	5.89	139	23.70	4.29	-0.84	.404				
	PA	162	24.07	3.52	223	23.79	4.06	0.71	.479				
Open adoption record													
	MTA	153	24.13	3.47	90	23.92	3.66	0.45	.653				
	MA	6	23.59	4.49	136	23.66	4.32	-0.04	.967				
	PA	159	24.11	3.49	226	23.77	4.07	0.87	.382				
In foster care > 1 year													
	MTA	160	24.08	3.33	82	23.97	3.94	0.22	.823				
	SMA	15	23.57	3.74	127	23.67	4.39	-0.08	.935				
	PA	175	24.04	3.36	209	23.79	4.21	0.63	.528				
International adoption													
	MTA	121	24.44	3.09	122	23.68	3.90	1.68	.094				
	SMA	3	26.54	2.07	138	23.59	4.34	1.18	.240				
	PA	124	24.49	3.08	260	23.63	4.14	2.05	.041	0.22			
Institutional care setting for at least 6 months prior to adoption													
	MTA	142	24.46	3.08	101	23.49	4.04	2.11	.035	0.28			
	MA	12	23.51	4.26	130	23.67	4.33	-0.13	.899				
	PA	154	24.38	3.18	231	23.60	4.20	1.98	.048	0.21			
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	124	24.53	3.19	93	23.73	3.99	1.66	.099		26	22.94	3.07
	MA	3	21.61	3.89	131	23.79	4.39	-0.86	.392		8	22.35	2.88
	PA	127	24.47	3.23	224	23.76	4.22	1.63	.104		34	22.80	2.99

Table 12  
 SCIM-Lack score by demographic sub-groups

		Yes			No						Unknown		
		<i>n</i>	M	SD	<i>n</i>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<i>n</i>	M	SD
Adopted by a relative													
	MTA	157	21.13	6.23	86	12.65	6.52	10.02	< .001	1.34			
	SMA	3	25.25	3.46	138	13.85	6.86	2.88	.005	1.68			
	PA	160	21.21	6.21	224	13.39	6.74	11.60	< .001	1.20			
Open adoption record													
	MTA	152	20.28	6.81	91	14.54	7.28	6.22	< .001	0.82			
	MA	6	14.30	9.10	135	14.09	6.93	0.07	.941				
	PA	158	20.05	6.97	226	14.27	7.06	7.96	< .001	0.83			
In foster care > 1 year													
	MTA	158	21.25	5.88	84	12.15	6.60	11.03	< .001	1.49			
	MA	15	15.05	7.21	126	13.98	6.99	0.56	.576				
	PA	173	20.71	6.24	210	13.25	6.88	11.05	< .001	1.13			
International adoption													
	MTA	121	22.69	4.61	122	13.60	7.10	11.87	< .001	1.52			
	SMA	3	14.21	4.66	137	14.04	7.04	0.04	.965				
	PA	124	22.48	4.77	259	13.83	7.06	12.39	< .001	1.35			
Institutional care setting for at least 6 months prior to adoption													
	MTA	142	21.80	5.73	101	12.97	6.66	11.10	< .001	1.45			
	SMA	12	13.90	7.36	129	14.11	6.99	-0.10	.920				
	PA	154	21.18	6.22	230	13.61	6.86	11.03	< .001	1.15			
Removed by Child Protective Services due to a claim of abuse or neglect													
	MTA	123	21.52	6.18	94	14.07	7.18	8.24	< .001	1.13	26	16.78	6.89
	MA	3	22.88	3.91	130	13.89	7.01	2.23	.028	1.30	8	14.18	5.90
	PA	126	21.55	6.13	224	13.96	7.07	10.13	< .001	1.13	34	16.16	6.68

## Regression Analysis

Multiple regression analyses were used to investigate the hypotheses that dissociation and rejection sensitivity would explain more of the variance in identity scores than adoption status alone, and further, that dissociation and rejection sensitivity would mediate the relationship between adoption status and identity scores.

Results as shown in Figure 1 indicated that adoption status was a significant predictor of identity distress,  $b^* = .30$ ,  $SE = 1.02$ ,  $p < .001$ . Adoption status alone accounted for approximately 9% of the variance in identity distress ( $R^2 = .09$ ). Both dissociation,  $b^* = .83$ ,  $p < .001$  and rejection sensitivity,  $b^* = .10$ ,  $p < .001$ , were significant predictors of identity distress when controlling for adoptions status. Adoption status decreased,  $b^* = .06$ ,  $p = .013$ , but remained a significant predictor of identity distress after controlling for the mediators, dissociation and rejection sensitivity consistent with partial mediation. Approximately 77% of the variance in identity distress was accounted for by the three predictors ( $R^2 = .77$ ).

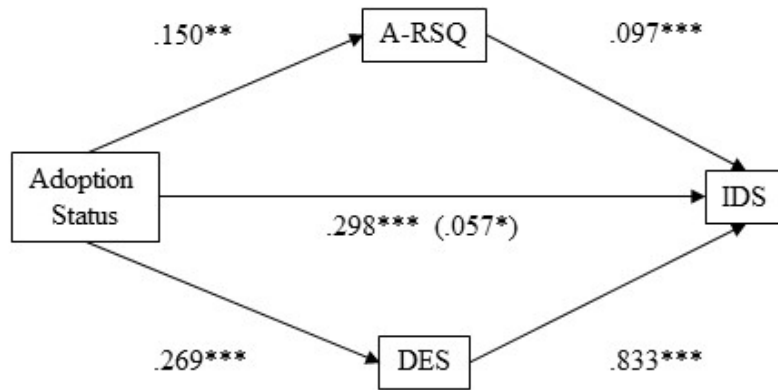


Figure 1: Mediation model between adoption status and Identity Distress  
 Standardized regression coefficients between adoption status and Identity Distress as mediated by dissociation and rejection sensitivity. Standardized regression coefficient between adoption status and Identity Distress, controlling for dissociation and rejection sensitivity, is in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Results as shown in Figure 2 indicated that adoption status was a significant predictor of SCIM-Total score,  $b^* = .23$ ,  $SE = 25.43$ ,  $p < .001$ . . Adoption status alone accounted for approximately 6% of the variance in SCIM-Total score ( $R^2 = .06$ ). Both dissociation,  $b^* = .82$ ,  $p < .001$  and rejection sensitivity,  $b^* = .05$ ,  $p = .046$ , were significant predictors of SCIM-Total score when controlling for adoptions status. Adoption status became an insignificant, predictor of SCIM-Total score,  $b^* = .02$ ,  $p = .430$  after controlling for the mediators, dissociation and rejection sensitivity consistent with full mediation. Approximately 69% of the variance in SCIM-Total was accounted for by the predictors ( $R^2 = .69$ ).

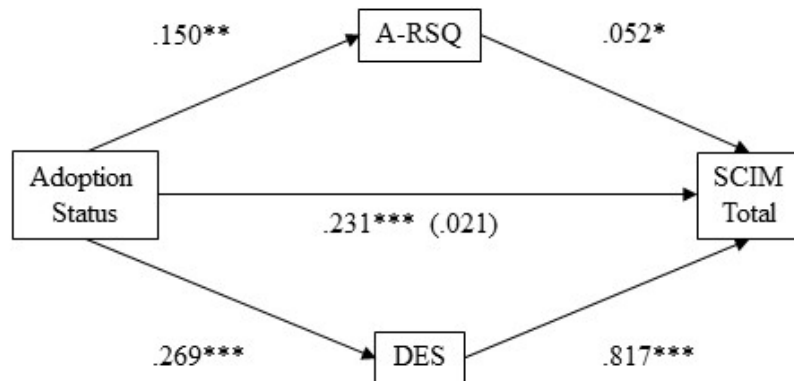


Figure 2: Mediation model between adoption status and SCIM-Total Score  
 Standardized regression coefficients between adoption status and SCIM-Total score as mediated by dissociation and rejection sensitivity. Standardized regression coefficient between adoption status and SCIM-Total, controlling for dissociation and rejection sensitivity, is in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Results as shown in Figure 3 indicated that adoption status was a significant predictor of SCIM-Disturbed score,  $b^* = .25$ ,  $SE = 10.42$ ,  $p < .001$ . Adoption status alone accounted for approximately 6% of the variance in SCIM-Disturbed score ( $R^2 = .06$ ). Both dissociation,  $b^* = .81$ ,  $p < .001$  and rejection sensitivity,  $b^* = .14$ ,  $p < .001$ , were significant predictors of SCIM-Disturbed score when controlling for adoptions status. Adoption status became an insignificant, predictor of SCIM-Disturbed score,  $b^* = .02$ ,  $p = .52$  after controlling for the mediators, dissociation and rejection sensitivity consistent with full mediation. Approximately 72% of the variance in SCIM-Disturbed was accounted for by the predictors ( $R^2 = .72$ ).



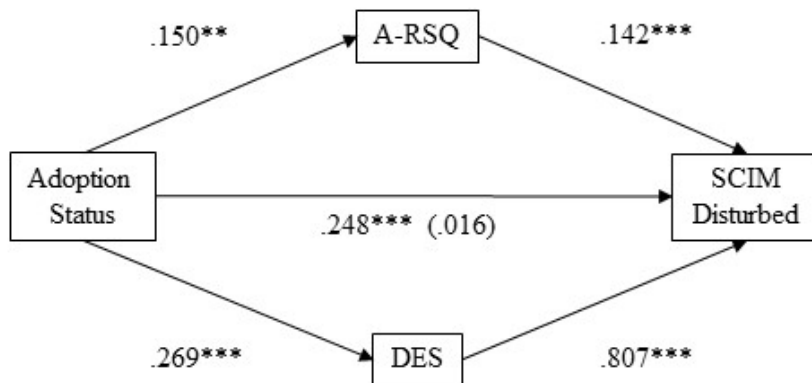


Figure 3: Mediation model between adoption status and SCIM-Disturbed Score  
 Standardized regression coefficients between adoption status and SCIM-Disturbed subscale score as mediated by dissociation and rejection sensitivity. Standardized regression coefficient between adoption status and SCIM-Disturbed, controlling for dissociation and rejection sensitivity, is in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Results as shown in Figure 4 indicated that adoption status was a significant predictor of SCIM-Consolidated score,  $b^* = -.11$ ,  $SE = 10.42$ ,  $p = .010$ . Adoption status alone accounted for only 1% of the variance in SCIM-Consolidated score ( $R^2 = .01$ ). Only rejection sensitivity,  $b^* = -.50$ ,  $p < .001$ , was a significant predictor of SCIM-Consolidated score when controlling for adoptions status. Adoption status became an insignificant, predictor of SCIM-Consolidated score,  $b^* = .04$ ,  $p = .303$  after controlling for the mediator rejection sensitivity consistent with full mediation. Twenty-five percent of the variance in SCIM-Consolidated was accounted for by the predictors ( $R^2 = .25$ ).

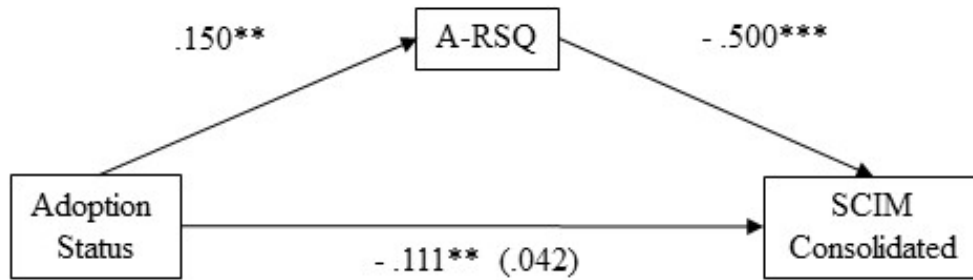


Figure 4: Mediation model between adoption status and SCIM-Consolidated score  
 Standardized regression coefficients between adoption status and SCIM-Consolidated subscale score as mediated by rejection sensitivity. Standardized regression coefficient between adoption status and SCIM-Consolidated, controlling for rejection sensitivity, is in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Results as shown in Figure 5 indicated that adoption status was a significant predictor of SCIM-Lack score,  $b^* = .29$ ,  $SE = 7.30$ ,  $p < .001$ . Adoption status alone accounted for approximately 8% of the variance in SCIM-Lack score ( $R^2 = .08$ ). Both dissociation,  $b^* = .65$ ,  $p < .001$  and rejection sensitivity,  $b^* = .32$ ,  $p < .001$ , were significant predictors of SCIM-Lack when controlling for adoptions status. Adoption status decreased,  $b^* = .06$ ,  $p = .029$ , but remained a significant predictor of SCIM-Lack score after controlling for the mediators, dissociation and rejection sensitivity consistent with partial mediation. Approximately 64% of the variance in identity distress was accounted for by the predictors ( $R^2 = .64$ ).

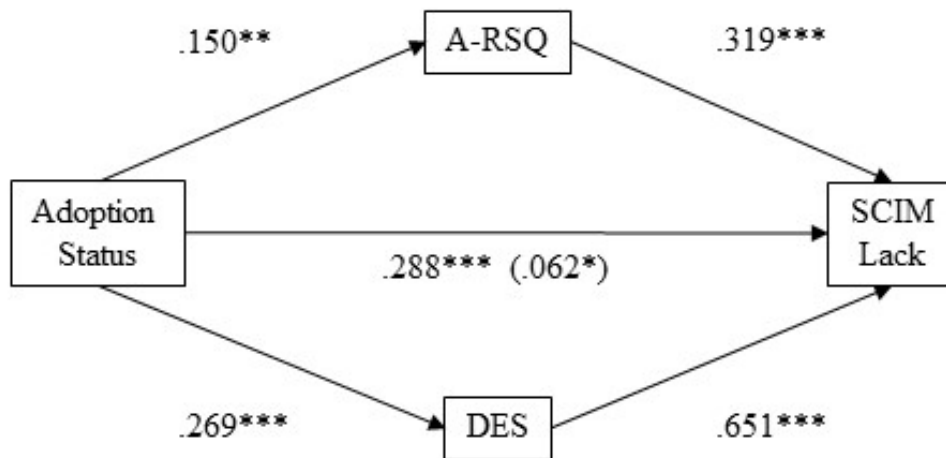


Figure 5 Mediation model between adoption status and SCIM-Lack Score  
 Standardized regression coefficients between adoption status and SCIM-Lack subscale score as mediated by dissociation and rejection sensitivity. Standardized regression coefficient between adoption status and SCIM-Consolidated, controlling for dissociation and rejection sensitivity, is in parenthesis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Hypothesis 5 was mostly confirmed. Dissociation and rejection sensitivity accounted for more of the variance in identity scores than adoption status for all identity measures except the consolidated identity subscale score on the SCIM, where rejection sensitivity accounted for most of the variance, but neither dissociation nor adoption status were significant predictors.

Hypothesis 6 was also mostly confirmed. Regression analyses showed that the identity scores were mediated by dissociation and rejection sensitivity. The IDS and SCIM-Lack scores were partially mediated while the SCIM-Total and SCIM-Disturbed were fully mediated. The SCIM-Consolidated score was also fully mediated but only by rejection sensitivity.

## DISCUSSION

This study quantitatively measured dissociation, rejection sensitivity, and identity distress among adopted adults. This study also investigated the relationship between identity, dissociation, and rejectivity in the adopted individual finding a combined model including dissociation and rejections sensitivity not only explained more of the variance in identity measures than adoption status alone, but further, dissociation and rejection sensitivity moderated most of the relationships between adoption status and identity scores.

Ross, Joshi, and Currie (1990), conducted a randomized general adult population study using the DES in the city of Winnipeg, Canada ( $N = 1055$ ). In this study the mean score was 10.8 and only 5% scored above the screening cutoff score of 30 proposed by Carlson et al. (1993). By comparison, the PA mean score in this study of 34.69 was much higher and 44.6% of the adoptees scored above the screening cutoff. This general population study provides a second, independent group for comparison which also confirms that adoptees score higher on this quantitative measure of dissociative experiences.

A survey of 331 US college students found that 12% met the *DSM-III* criteria for Identity Disorder (Berman et al., 2004) while a study of students in Canada and Spain reported a prevalence of 9.7% (Samuolis, Barcellos, LaFlam, Belson, & Berard, 2015). In this study, 30.4% of the PA group met the criteria for Identity Disorder reflecting a much greater prevalence among adoptees than reported in the studies above or the control group in this study. The *DSM-IV* replaced Identity Disorder with a more liberally defined Identity Problem. Samuolis, Barcellos, LaFlam, Belson, and Berard (2015) found that approximately 8% of students in their study of college students in the United States met the criteria for Identity Problem while 18% of

students in a survey in Canada and Spain met the criteria for Identity Problem (Gfellner & Cordoba, 2011). In this study 55.5% of the adoptees met the criteria for Identity Problem.

An internet based survey of 685 was conducted by Berenson et al. (2009) using the A-RSQ with a reported mean score of 8.6. In another study comparing rejection sensitivity in persons with borderline personality disorder to healthy controls, the control group mean score was 6.19 (Berenson, Downey, Rafaeli, Coifman, & Paquin, 2011). Comparing those scores to the adoptee mean score of 10.7 in this study provides additional confirmation that adoptees experience a higher level of sensitivity to rejection.

### Implications for Clinical Consideration

The observation that children and adolescents have historically been over-represented in mental health treatment (Schechter, 1960) raises the question of whether that trend continues into adulthood. That question is difficult to answer as questions on prior adoption experience are often not included on the intake questionnaire used for adult clients. The results of this study suggest that many adult adoptees continue to struggle in several domains long into adulthood.

Nearly one-third (30.4%) of the adoptees in this survey met the *DSM-III* criteria for Identity Disorder. This would make Identity Disorder almost four times (3.8x) more prevalent in the adoptee community than the general population. Additionally, over half (55.5%) of adoptees met the *DSM-IV* criteria for Identity Problem. In this study dissociation and rejection sensitivity were also found to be mediating factors affecting identity, suggesting that these might be major contributing factors in the way in which adoption can lead to identity issues.

In this study dissociation was measured by the DES-II. Previous studies established 30 as a cutoff value for use in screening for clinically meaningful dissociation (Carlson et al., 1993). Forty-five percent of the adoptees in this study scored above the cutoff value of 30. This is nine times higher than the 5% rate found in the general population (Ross, Joshi, and Currie, 1990). Dissociative behavior has also been observed in adopted children, which persisted over several years (Becker-Blease et al., 2015). With the large percentage of adults in this study who reported dissociative experiences, it appears that dissociation may be a coping mechanism which is well established by the time an adult client seeks treatment. While the DES-II is a screening and not a diagnostic tool for dissociation, being aware of the likelihood of dissociation in this population, proper diagnostic testing may be indicated sooner in the therapeutic process. Habitual dissociation may provide challenges in therapy due to the inability to access relevant emotions and memories. Dissociation may also result in the client being unaware of underlying environmental factors such as anniversary dates of disturbing events or emotional triggers such as rejection sensitivity.

Rejection sensitivity was a mediating factor in adoptee identity and could potentially be a factor in other reasons for which a client might seek treatment. Anecdotally adoptees report difficulty in relationships with feeling secure and anticipating rejection. One pattern of behavior observed is frequent testing of commitment in relationships (Verrier, 1993). This behavior may be closely linked to rejection sensitivity and anticipation of rejection. Rejection sensitivity could also be a challenge in the clinical setting in the form of the client's anticipation of rejection by the therapist causing barriers to effective communication.

While adoption cannot be singled out as a causative agent based on these results, adoption may serve as an indication that at some point the client has experienced events which

were significantly disruptive or traumatic. Additionally identity distress was found to have a positive correlation with loneliness, anger, hopelessness, and depression in college students (Samuolis & Griffin, 2014). If adoption status is included in the initial intake questionnaire, issues with identity, dissociation, and rejection sensitivity may be factors worth considering relating to the initial cause of the client to seek counseling.

Over 2% of the US population is estimated to be adopted, representing approximately 6.5 million individuals. If between one third and half of the adult adoptees continue to struggle into adulthood as suggested by this study, there are potentially several million people being significantly impacted.

#### Use of Amazon's Mechanical Turk

A further purpose in this study is to replicate Olson (2013) and expand the participant base to provide a comparison group of adopted adults independent of those recruited through MTurk. Olson (2013) found that adoptees scored lower on both the DES-II and A-RSQ, which was the opposite hypothesized by Olson. In this study, adoptees recruited both through MTurk and social media scored higher on the A-RSQ than MTurk controls. Adoptees recruited through MTurk scored higher on the DES-II than MTurk controls while those recruited through social media scored lower than the MTurk controls. For both the DES-II and ARS-Q both adoptee groups in this study scored higher than in studies from the general population. While the results in this study are the opposite of the findings in Olson (2013), these results are also consistent across two independently recruited groups of adoptees.

MTurk participants were recruited specifically requesting adult adoptees only. Of the 240 individuals who responded, 16.7% ( $n = 40$ ) were screened out for answering no to the question, “were you adopted?” This occurred despite both the survey description on MTurk and the explanation of research specifically stating that only adults who were adopted as children should respond to the survey. This suggests the need for careful additional screening when attempting to use MTurk to sample specific populations.

There was a large difference in the time taken to complete the survey package between the MTurk participants and those recruited through social media. The mean completion time for MTurk participants ( $n = 398$ ) was 8.7 minutes compared to 23.6 minutes for social media participants ( $n = 142$ ). Mturk participants were paid for participation, albeit a small fee, while social media participants were not. This suggests that the speed and motivation with which MTurk participants work through surveys might be worthy of consideration if a study is seeking reflective, thoughtful responses.

### Limitations and Future Research

There are several limitations of the current study. One is that none of the groups were randomly selected to create demographically representative groups. All participants were self-selected which can lead to groups which are not representative of the overall population. While one cannot randomly assign people to adopted or non-adopted groups, with a larger, more diverse sample, steps could be taken to insure demographic similarity between groups such as using a stratified sample or weighting scores based on demographic representation.



While significant correlations were found in this study, another limitation is the inability to draw causative conclusions from correlational data. Longitudinal studies could be helpful in this regard. There are also potential confounding factors for which controls were not established or within the scope of the present study. One potentially confounding factor could include adverse childhood experiences either leading up to or following adoption. Future studies should include a more thorough questioning on childhood adverse events and trauma to help clarify the impact and relationship between those types of experiences, adoption, dissociation, and identity. The DES-II, IDS, and ARS-Q could also be incorporated into ongoing longitudinal adoptee studies which have better background history on the adopted participants.

Data from this study also suggest several additional areas for future research on the interactions between adoption, identity, dissociation, and rejection sensitivity. Further research could investigate different aspects of dissociation such as amnesia, depersonalization, and derealization. Another area could be how the changes in society's approach to adoption have changed over the decades and how the resulting changes in adoption as experienced by the adoptee may result in differences in identity development and coping mechanisms. Further studies might also look into the initial problems which cause adoptees to seek mental health services and how they might be associated with underlying issues relating to identity and adoption.

## Conclusion

Significant differences were found between adopted and non-adopted groups on quantitative measures of dissociation, rejection sensitivity, and identity. Both rejection

sensitivity and dissociation were also found to be significant mediating factors in explaining the link between adoption and measures of identity. Implications for consideration in a clinical setting were discussed as well as potential areas of future research.

## **APPENDIX A: IRB APPROVAL**



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Determination of Exempt Human Research

From: **UCF Institutional Review Board #1  
FWA00000351, IRB00001138**

To: **Steven L Berman and Co-PI Lee McLamb**

Date: **November 08, 2018**

Dear Researcher:

On 11/08/2018, the IRB reviewed the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination, Category 2  
Project Title: Adult Adoptee Survey  
Investigator: Steven L Berman  
IRB Number: SBE-18-14512  
Funding Agency:  
Grant Title:  
Research ID: n/a

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

This letter is signed by:

A handwritten signature in black ink that reads "Renca C Carver".

Signature applied by Renca C Carver on 11/08/2018 04:02:43 PM EST

Designated Reviewer

## **APPENDIX B: SURVEY QUESTIONNAIRE**

## **Demographic Information**

**SEX:** Indicate your gender

- Male
- Female
- Transgender
- Other (explain)

**AGE:** Type your age

**EDUCATION:** Indicate highest year in school

- Have not completed high school
- High school graduate / GED
- Some college
- College graduate or higher

**ETHNICITY:** Select the ethnic/racial identifier that best describes you:

- White, non-Hispanic
- Black, non-Hispanic
- Hispanic or Latino/a
- Asian or Pacific Islander
- Native American or Alaskan Native
- Mixed ethnicity or Other (Specify): \_\_\_\_\_

**Were you adopted?**

- Yes
- No (If no skip the remaining demographic questions)

**How old were you when you were adopted? Select from list**

- 0-3 Months
- 4-6 Months
- 7-11 Months
- 1 Year
- 2 Years
- 3 Years
- 4 Years
- 5 Years
- 6 Years
- 7 Years
- 8 Years
- 9 Years
- 10 Years
- 11 Years
- 12 Years
- 13 Years
- 14 Years
- 15 Years
- 16 Years

- 17 Years

**Were you adopted by a relative?**

- Yes
- No

**Were your adoption records considered open or closed (Open adoption involves some communication or contact with a member of your biological family)**

- Open
- Closed

**Were you placed in a foster care setting for more than one year?**

- Yes
- No

**Were you adopted through an international adoption agency?**

- Yes
- No

**Did you live in an institutional care setting for at least 6 months before you were adopted?**

- Yes
- No

**Did Child Protective Services remove you from your biological family because of a claim that your biological parents abused or neglected you before you were adopted?**

- Yes
- No
- Unknown



**DES II** - This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you **are not** under the influence of alcohol or drugs. To answer the questions, please determine to what degree the experience described in the question applies to you and select the number to show what percentage of the time you have the experience.

**0%      10      20      30      40      50      60      70      80      90      100%**

**Not at  
all**

**Always**

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly realizing that they don't remember what has happened during all or part of the trip. Select a number to show what percentage of the time this happens to you.
2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Select a number to show what percentage of the time this happens to you.
3. Some people have the experience of finding themselves in a place and having no idea how they got there. Select a number to show what percentage of the time this happens to you.
4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on, Select a number to show what percentage of the time this happens to you.

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Select a number to show what percentage of the time this happens to you.
6. Some people sometimes find that they are approached by people who they do not know who call them by another name or insist that they have met them before. Select a number to show what percentage of the time this happens to you.
7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. Select a number to show what percentage of the time this happens to you.
8. Some people are told that they sometimes do not recognize friends or family members. Select a number to show what percentage of the time this happens to you.
9. Some people find that they have no memory for some important events in their lives (for example: a wedding or graduation), Select a number to show what percentage of the time this happens to you,
10. Some people have the experience of being accused of lying when they do not think that they have lied. Select a number to show what percentage of the time this happens to you.
11. Some people have the experience of looking in a mirror and not recognizing themselves.  
Select a number to show what percentage of the time this happens to you.
12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Select a number to show what percentage of the time this happens to you.
13. Some people have the experience of feeling that their body does not seem to belong to them.  
Select a number to show what percentage of the time this happens to you.

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Select a number to show what percentage of the time this happens to you.
15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Select a number to show what percentage of the time this happens to you,
16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Select a number to show what percentage of the time this happens to you.
17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Select a number to show what percentage of the time this happens to you.
18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Select a number to show what percentage of the time this happens to you.
19. Some people find that they sometimes are able to ignore pain. Select a number to show what percentage of the time this happens to you.
20. Some people find that they sometimes sit staring off in space, thinking of nothing, and are not aware of the passage of time. Select a number to show what percentage of the time this happens to you.
21. Some people sometimes find that when they are alone they talk out loud to themselves. Select a number to show what percentage of the time this happens to you.

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Select a number to show what percentage of the time this happens to you.
23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Select a number to show what percentage of the time this happens to you.
24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have mailed a letter or have just thought about mailing it). Select a number to show what percentage of the time this happens to you.
25. Some people find evidence that they have done things that they do not remember doing. Select a number to show what percentage of the time this happens to you.
26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Select a number to show what percentage of the time this happens to you.
27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Select a number to show what percentage of the time this happens to you.
28. Some people sometimes feel as if they are looking at the world through a fog so that people and objects appear far away or unclear. Select a number to show what percentage of the time this happens to you.

**IDS** – Using the following scale, please select to what degree you have recently been upset, distressed, or worried over any of the following issues in your life.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>None At All</b>	<b>Mildly</b>	<b>Moderately</b>	<b>Severely</b>	<b>Very Severely</b>

- 29. Long term goals? (e.g., finding a good job, being in a romantic relationship, etc.)
- 30. Career choice? (e.g., deciding on a trade or profession, etc.)
- 31. Friendships? (e.g., experiencing a loss of friends, change in friends, etc.)
- 32. Sexual orientation and behavior? (e.g., feeling confused about sexual preferences, intensity of sexual needs, etc.)
- 33. Religion? (e.g., stopped believing, changed your belief in God/religion, etc.)
- 34. Values or beliefs? (e.g., feeling confused about what is right or wrong, etc.)
- 35. Group loyalties? (e.g., belonging to a club, school group, gang, etc.)

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>None At All</b>	<b>Mildly</b>	<b>Moderately</b>	<b>Severely</b>	<b>Very Severely</b>

- 36. Please rate your overall level of discomfort (how bad they made you feel) about all the above issues as a whole.
- 37. Please rate how much uncertainty over these issues as a whole has interfered with your life (for example, stopped you from doing things you wanted to do, or being happy)

<b>Never or less than a month</b>	<b>1 to 3 months</b>	<b>3 to 6 months</b>	<b>6 to 12 months</b>	<b>More than 12 months</b>
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1                      2                      3                      4                      5

38. How long (if at all) have you felt upset, distressed, or worried over these issues as a whole?

(Use rating scale below)

**SCIM** - For the following 27 statements, please decide how much you agree or disagree with each, using the following scale.

1	2	3	4	5	6	7
<b>Strongly disagree</b>	<b>Disagree</b>	<b>Somewhat disagree</b>	<b>Neither agree nor disagree</b>	<b>Somewhat agree</b>	<b>Agree</b>	<b>Strongly agree</b>

39. I know what I believe or value

40. When someone describes me, I know if they are right or wrong

41. When I look at my childhood pictures I feel like there is a thread connecting my past to now

42. Sometimes I pick another person and try to be just like them, even when I'm alone

43. I know who I am

44. I change a lot depending on the situation

45. I have never really known what I believe or value

46. I feel like a puzzle and the pieces don't fit together

47. I am good

48. I imitate other people instead of being myself

49. I have been interested in the same types of things for a long time

50. I am so different with different people that I'm not sure which is the "real me"

51. I am broken

52. When I remember my childhood I feel connected to my younger self

53. I feel lost when I think about who I am

- 54. At least one person sees me for who I really am
- 55. I always have a good sense about what is important to me
- 56. I am so similar to certain people that sometimes I feel like we are the same person
- 57. I am basically the same person that I've always been
- 58. I feel empty inside, like a person without a soul
- 59. My opinions can shift quickly from one extreme to another
- 60. I no longer know who I am
- 61. I am more capable when I am with others than when I am by myself
- 62. No one knows who I really am
- 63. I try to act the same as the people I'm with (interests, music, dress) and I change that all the time
- 64. I am only complete when I am with other people
- 65. The things that are most important to me change pretty often

**A-RSQ** The items below describe situations in which people sometimes ask things of others.

For each item, **imagine that you are in the situation, and then answer the questions that follow it.**

**You ask your parents or another family member for a loan to help you through a difficult financial time.**

<b>Very Unconcerned</b>						<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>

66. How concerned or anxious would you be over whether or not your family would want to help you?

<b>Very Unlikely</b>						<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>

67. I would expect that they would agree to help as much as they can.

**You approach a close friend to talk after doing or saying something that seriously upset him/her.**

<b>Very Unconcerned</b>						<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>

68. How concerned or anxious would you be over whether or not your friend would want to talk with you?

<b>Very Unlikely</b>						<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>

69. I would expect that he/she would want to talk with me to try to work things out.

**You bring up the issue of sexual protection with your significant other and tell him/her how important you think it is.**

<b>Very Unconcerned</b>						<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>

70. How concerned or anxious would you be over his/her reaction?

<b>Very Unlikely</b>						<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		<b>6</b>



71. I would expect that he/she would be willing to discuss our possible options without getting defensive.

**You ask your supervisor for help with a problem you have been having at work.**

<b>Very Unconcerned</b>						<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

72. How concerned or anxious would you be over whether or not the person would want to help you?

<b>Very Unlikely</b>					<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

73. I would expect that he/she would want to try to help me out.

**After a bitter argument, you call or approach your significant other because you want to make up.**

<b>Very Unconcerned</b>					<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

74. How concerned or anxious would you be over whether or not your significant other would want to make up with you?

<b>Very Unlikely</b>					<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

75. I would expect that he/she would be at least as eager to make up as I would be

**You ask your parents or other family members to come to an occasion important to you.**

<b>Very Unconcerned</b>					<b>Very Concerned</b>
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80. How concerned or anxious would you be over whether or not he/she still loves you and wants to be with you?

<b>Very Unlikely</b>						<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

81. I would expect that he/she will show sincere love and commitment to our relationship no matter what else may be going on.

**You call a friend when there is something on your mind that you feel you really need to talk about.**

<b>Very Unconcerned</b>						<b>Very Concerned</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

82. How concerned or anxious would you be over whether or not your friend would want to listen?

<b>Very Unlikely</b>						<b>Very Likely</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

83. I would expect that he/she would listen and support me.

## **APPENDIX C: COMMITTEE APPROVAL**

### Honors Undergraduate Thesis - Thesis Approval Form

Students must complete this form and obtain all signatures *except that of The Burnett Honors College Dean*. The Burnett Honors College Dean will only sign this form if (1) your thesis committee and Department Chair have signed it, and (2) you have completed the entire thesis process, including the delivery of all paperwork and uploading to STARS. One copy of this form must be delivered to The Office of Honors Research in TCH 248 or emailed to HonorsResearch@ucf.edu by the posted deadline.

**Directions: Complete this document electronically.**

Electronic signatures are acceptable. Students can create a free account at: [www.hellosign.com](http://www.hellosign.com).

1. Student Name Lee McLamb

2. UCF ID (PID) 3491566 (PID contains 7 numbers, no letters)

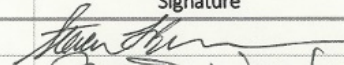
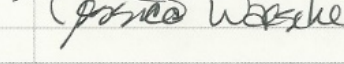
3. Department Psychology (Print full name.)

4. College College of Sciences

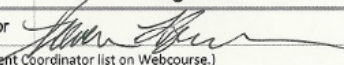
5. Defense Date 11/19/19

6. Thesis Title  
A Survey of Dissociation, Identity Distress, and Rejection Sensitivity in Adult Adoptees

The members of the Thesis Committee have reviewed the results of the Turnitin/iThenticate submission, attended the thesis defense, and approve the above-named thesis.

Name (without title)	Title	Signature	Date
Steven L. Berman	Thesis Chair		11-19-19
Jessica Waesche	Committee Member		11/19/19
	<select title>		
	<select title>		
	<select title>		

It is recommended that this thesis be used in partial fulfillment of the requirements of the Honors Undergraduate Thesis Program.

Name (without title)	Title	Signature	Date
Steven L. Berman	Dept. Chair or HUT Dept. Coordinator		11-19-19

(Note: Find HUT Department Coordinator list on Webcourse.)

Once completed, submit to the Office of Honors Research via email: [HonorsResearch@ucf.edu](mailto:HonorsResearch@ucf.edu) or in person: Trevor Colbourn Hall Room 248.

Last Updated 7/30/2019

OHR Official Use Only:

Sheila Amin Gutiérrez de Piñeres Ph.D.  
 Dean, The Burnett Honors College

\_\_\_\_\_  
 Dean, The Burnett Honors College Signature

\_\_\_\_\_  
 Date

## REFERENCES

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders: DSM-III-R (3 rev. ed.)*. Washington, DC: Author.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV (4th ed.)*. Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5 (5th ed.)*. Arlington, VA: Author. Retrieved from
- Becker-Blease, K., Deater-Deckard, K., Eley, T., Freyd, J. J., Stevenson, J., Plomin, R., . . . Juffer, F. (2015). A genetic analysis of individual differences in dissociative behaviors in childhood and adolescence *Journal of Child Psychology and Psychiatry*. doi: 10.1111/j.1469-7610.2004.00242.x
- Berenson, K. R., Gyurak, A., Ayduk, O., Downey, G., Garner, M. J., Moog, K., Bradley, . . . Pine, D.S. (2009). Rejections sensitivity and disruption of attention by social threat cues. *Journal of Research in Personality* 43, 1064-1072. doi:10.1016/j.jrp.2009.07.007
- Berenson, K. R., Downey, G., Rafaeli, E., Coifman, K. G., & Paquin, N. L. (2011). The rejection–rage contingency in borderline personality disorder. *Journal of Abnormal Psychology*, 120(3), 681-690. doi: 10.1037/a0023335
- Berman, S. L., Montgomery, M. J., & Kurtines, W. M. (2004). The development and validation of a measure of identity distress. *Identity*, 4(1), 1-8. doi: 10.1207/S1532706XID0401\_1
- Brand, S. R., Engel, S. M., Canfield, R. L., & Yehuda, R. (2006). The effect of maternal PTSD following in utero trauma exposure on behavior and temperament in the 9-month-old infant.

- In R. Yehuda, & R. Yehuda (Ed) (Eds.), *Annals of the new york academy of sciences* (pp. 454-458). Malden: Blackwell Publishing.
- Carlson, E. B., & Putnam, F. W. (1993). An update on the Dissociative Experiences Scale. *Dissociation: Progress In The Dissociative Disorders*, 6(1), 16-27.
- Császár-Nagy, N., & Bókkon, I. (2018). Mother-newborn separation at birth in hospitals: A possible risk for neurodevelopmental disorders? *Neuroscience & Biobehavioral Reviews*, 84, 337-351. doi: 10.1016/j.neubiorev.2017.08.013
- Dalenberg, C. J., Brand, B. L., Gleaves, D. H., Dorahy, M. J., Loewenstein, R. J., Cardea, E., . . . Spiegel, D. (2012). Evaluation of the evidence for the trauma and fantasy models of dissociation. *Psychological Bulletin*, 138(3), 550-588. doi: 10.1037/a0027447
- Dunbar, N. (2003). *Typologies of adolescent adoptive identity: The influence of family context and relations* (Unpublished doctoral dissertation). University of Minnesota, St. Paul, NM.
- Dunbar, N., & Grotevant, H. D. (2004). *Adoption narratives: The construction of adoptive identity during adolescence*. In M. W. Pratt, B. H. Fiese, M. W. Pratt (Ed) & B. H. Fiese (Ed) (Eds.), (pp. 135-161). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Erikson, E. H. (1959). *Identity and the life cycle : Selected papers*. New York: International Universities Press.
- Field, T., Diego, M., Hernandez-Reif, M., Figueiredo, B., Deeds, O., Ascencio, A., . . . Kuhn, C. (2010). Comorbid depression and anxiety effects on pregnancy and neonatal outcome. *Infant Behavior and Development*, 33(1)(23)
- Frisk, M. (1964). Identity problems and confused conception of the generic ego in adopted children during adolescence. *Acta Paediatrica*, 21, 6-11.

- Garber, K. J., & Grotevant, H. D. (2015). "YOU were adopted?!": Microaggressions toward adolescent adopted individuals in same-race families. *The Counseling Psychologist*, 43(3), 435-462. doi: 10.1177/0011000014566471
- Gfellner, B. M., & Cordoba, A. I. (2011). Identity distress, psychosocial maturity, and adaptive functioning among university students. *Identity: An International Journal of Theory and Research*, 11(2), 136–154. doi: 10.1080/15283488.2011.540740
- Goffman, E. (1963). *Stigma; notes on the management of spoiled identity*. Englewood Cliffs, N.J.: Prentice-Hall.
- Grotevant, H. D. (1997). Coming to terms with adoption. *Adoption Quarterly*, 1(1), 3-27. doi: 10.1300/J145v01n01\_02
- Grotevant, H. D., Lo, A. Y. H., Fiorenza, L., & Dunbar, N. D. (2017). Adoptive identity and adjustment from adolescence to emerging adulthood: A person-centered approach. *Developmental Psychology*, 53(11), 2195-2204.
- Grotevant, H.D., McRoy, R.G., Wrobel, G.M., & Ayers-Lopez, S. (2013). Contact between adoptive and birth families: Perspectives from the Minnesota Texas Adoption Research Project. *Child Development Perspectives*, 7, 193-198.
- Grotevant, H.D., van Dulmen, M. H. M, Dunbar, N., Nelson-Christinedaughter, J., Christensen, M., Xitao, F., & Miller, C. (2006). Antisocial Behavior of Adoptees and Nonadoptees: Prediction from Early History and Adolescent Relationships. *Journal of Research on Adolescence*, 16(1), 105-131.
- Henderson, D. B. (2002). Challenging the silence of the mental health community on adoption issues. *Journal of Social Distress and the Homeless*, 11(2), 131-141. doi: 1014311817729



- Kaufman, E., Cundiff, J., & Crowell, S. (2015). The Development, Factor Structure, and Validation of the Self-concept and Identity Measure (SCIM): A Self-Report Assessment of Clinical Identity Disturbance. *Journal Of Psychopathology & Behavioral Assessment*, 37(1), 122-133. doi:10.1007/s10862-014-9441-2
- Kirschner, D. (1990). The adopted child syndrome: Psychotherapy in Private Practice, 8(3), 93-100. doi: 10.1300/J294v08n03\_12
- Lifton, B. (2002). The adoptee's journey. *Journal of Social Distress and the Homeless*, 11(2), 207-213.
- Olson, A. (2013). Rejection sensitivity and dissociation among adopted and non-adopted adults  
Retrieved from  
<https://scholarworks.csustan.edu/bitstream/handle/011235813/268/OlsonA.spring2013thesis.pdf>
- Perl, L., & Markham, S. (1999). Why wasn't I told? making sense of the late discovery of adoption. MI: Post Adoption Resource Center.
- Plomin, R., & DeFries, J. C. (1983). The colorado adoption project. *Child Development*, 54(2), 276-289. doi: 10.2307/1129691
- Quinn, D. M., & Chaudoir, S. R. (2009). Living with a concealable stigmatized identity: The impact of anticipated stigma, centrality, salience, and cultural stigma on psychological distress and health. *Journal of Personality and Social Psychology*, 97(4), 634-651. doi: 1037/a0015815
- Ross, C., Joshi, S. & Currie, R. (1990). Dissociative experiences in the general population. *American Journal Of Psychiatry*, 147(11), 1547-1552.

- Samuolis, J., & Griffin, K. W. (2014). Identity distress and negative affect in college students. *Identity: An International Journal of Theory and Research*, 14(4), 246–254.
- Samuolis, J., Barcellos, M., LaFlam, J., Belson, D., & Berard, J. (2015). Mental health issues and their relation to identity distress in college students. *Identity: An International Journal of Theory and Research*, 15(1), 66–73. doi: 10.1080/15283488.2014.989443
- Schechter, M. D. (1960). Observations on adopted children. *Archives of General Psychiatry*, 3(1), 21-32. doi: 10.1001/archpsyc.1960.01710010023005
- Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life. *American Psychologist*, 62(4), 271-286. doi: 10.1037/0003-066X.62.4.271
- Verrier, N. N. (1993). *The primal wound: Understanding the adopted child*. Baltimore: Gateway Press.
- Westermeyer, J., Yoon, G., Amundson, C., Warwick, M., & Kuskowski, M. A. (2015). Personality disorders in adopted versus non-adopted adults. *Psychiatry Research*, 226(2), 446-450. doi:10.1016/j.psychres.2014.12.067
- Wierzbicki, M. (1993). Psychological adjustment of adoptees: A meta-analysis. *Journal of Clinical Child Psychology*, 22(4), 447-454. doi: 10.1207/s15374424jccp2204\_5