Predictors of Posttraumatic Stress Disorder Following Abortion in a Former Soviet Union Country

Author: Mufel, Natalia; Speckhard, Anne; Sivuha, Sergei

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Full Text: Headnote ABSTRACT: One hundred and fifty women who had abortions in Belarus (former Soviet republic) were interviewed regarding reproductive history, decision-making and psychological outcomes. Positive and negative responses (including PTSD, guilt, grief, depression, anxiety/panic and emotional numbness) were assessed during the interview with the Impact of Events-R Scale to objectively measure aspects of PTSD. It was hypothesized that a portion of the sample would evidence PTSD with recognition of life, attachment, time, number of weeks of pregnancy, coercion, supported decision-making, wantedness, and age all predictive of negative responses. Forty-six percent of the sample suffered PTSD the best predictors being recognition of the life of the fetus, attachment, time since the abortion, and number of weeks of pregnancy. INTRODUCTION Abortion in the former Soviet Union (FSU) and in Eastern Europe is extremely prevalent, even now utilized in many regions as a primary form of birth control. The psychological and health tolls of the use of abortion in this manner have never been closely examined. Indeed it is a situation of absence of "freedom of choice" for women, but in the reverse of what is often such a cause for concern in the United States. Women use abortion in the FSU and Eastern Europe (often against their principles and desires) due to economic pressures, housing shortages, job conditions, the need for severely limited family size, and lack of availability and information about modern contraceptives. The concept of abortion as a psychological stressor capable of causing posttraumatic stress disorder (PTSD) has been described in the literature pertaining to American samples, but has only recently been examined in regard to former Soviet Union samples (Rue &Speckhard, 1996; Remennick &Segal, 2001; Mufel, 2000). Abortion turning from coping mechanism into posttraumatic stressor causing PTSD along the lines of the Diagnostic and Statistical Manual of Mental Disorders IV (APA, 1994) has been described in clinical and research writings by many authors (Bagarozzi, 1994; Barnard, 1990; Butterfield, 1988; Forst, 1992; Ney, 1982; Speckhard, 1987). When acting as a traumatic stressor, abortion is perceived as involving the death of a human being or a threat to bodily integrity. Flashbacks, strategies of avoidance and hyperarousal ensue, and when these combine to interfere significantly with life functions, causing impairment for duration of longer than 1 month, PTSD is diagnosed (Speckhard &Rue, 1992). Chronic and delayed PTSD reactions to abortion have also been described in the literature. This study set out to examine the unique psychosocial stressors reproductive conditions in the former Soviet Union create for women. One hundred and fifty anonymous, semi-structured interviews were completed in Belarus, a former soviet republic (in urban and non-urban areas). These interviews included a reproductive and sexual history, questions about contraceptive knowledge and use, emotional and psychological responses to abortion, including a measure of posttraumatic stress symptoms. The authors were interested to learn, among other things, if abortion in a context of complete availability, with extensive social acceptance and little political controversy (i.e. absence of protestors), would still act as a traumatic stressor. If so, we were interested to learn if the presentation of abortion-related PTSD would be similar to or differ from that described in American samples. Measures similar to those used in American studies of abortion acting as a traumatic stressor (i.e. Impact of Events-R Scale) were used making cross-cultural comparisons possible (Weiss &Marmar, 1995). This paper describes the results of the study in regard to post abortion trauma. METHOD Sample and Procedures One hundred and fifty women were recruited for anonymous semistructured interviews about their reproductive histories, experience with abortion and present psychological state. This sample was selected non-randomly from women who responded to invitations by advertisement in clinics and universities and telephone invitations

to women identified in gynecological records of the women's clinics. Both the advertisements and telephone invitations said simply that researchers were interested in talking with women about their postabortion psychological experiences, positive and negative. There were no additional requirements to participate in the interviews other than experience of pregnancy and at least one abortion occurring more than one month before the interview, to potentially meet PTSD diagnostic criteria (APA, 1994). Abortions for medical reasons were excluded. Informed consent for the interview was obtained over the telephone when appointments were made and before the interview commenced. Invitations and interviews took place both in Minsk and Borisov, in order to obtain a wide sampling of both urban and non-urban regions. The interviews were gathered in the time period from March 2000 to November 2000. Any woman who had emotional difficulty with the interview or who evidenced posttraumatic stress from her abortion(s) was invited to attend psychotherapy at the clinic. Age. The age of the women ranged between 15 and 49 and covered all gestational ages. The majority were in their twenties (65%). Marital Status and Children, Most of the women were married (56%); nearly two thirds had children (61%). Of these, 43% had only one child, which is the norm in this part of the world. Number of Abortions. Sixty-three percent had only one abortion, 37% had two or more abortions, with the maximum of abortions for one woman being eleven. (Multiple abortions are not unusual in the former Soviet Union: the average is three.) Gestational Period for Abortions. Fifty-two percent of the women had very early abortions (prior to four weeks following conception), 42% before twelve weeks, and 6% had second trimester abortions prior to twenty-two weeks. Level of Education. Thirty-one percent of the sample had university education; 18% percent were university students; 51% percent had secondary education (secondary school or some form of high school education other than university), 2% were still in secondary education. Attitude Towards Religion. Twenty eight percent of the sample professed no religious belief and/or did not belong to organized religious groups. The remainder professed beliefs in a higher power, were Catholic, or Orthodox, although the majority had only minor connections to organized religion (consistent with a long history of state mandated atheism.) Interview &Measurements Generally the semi-structured interviews took from 40 to 90 minutes depending on the complexity of the issues discussed. All women were questioned about specific variables: reproductive and sexual history, contraceptive usage over time, attitudes toward contraception, number of pregnancies and their outcomes, level of education (secondary and higher), religiosity, age at time of interview, and marital status. In regard to abortion history the interviewees were asked to select the most stressful abortion and give information about: the number of weeks pregnant; wantedness of the pregnancy; reasons for the abortion; support or coercion in decision-making; recognition of life and/or attachment, if any; and psychological responses, both positive and negative, following the abortion. These variables were coded based on the women's responses to direct questions about each (eg. Attachment, Wantedness, Depression, Panic, Guilt, etc.) and were coded as either present or absent based on the interviewer's clinical judgment of the women's responses to in-depth queries in the interview. In addition the Impact of Event Scale-Revised (IES-R) was administered to all women to query them about potential traumatic responses to abortion. The IES-R is a quantitative self-report measure of PTSD symptoms with three scales (two standardized) that have been used internationally. The IES-R measures three broad domains of response to traumatic stress: intrusive phenomena, avoidant and numbing phenomena, and hyperarousal phenomena. The scale targets levels of symptoms in the past seven days. It provides a dimensional method of capturing the severity of symptomatic distress. The diagnostic cutoffs for posttraumatic stress disorder on the intrusion and avoidance subscales on the IES-R are between 16 and 17; no cutoffs have been established for the hyperarousal scale (Weiss &Marmar, 1995). Translation of the scales into Russian was by Nadegda Tarabrina in Moscow, who used the IES-R in a study with Chernobyl liquidators (Tarabrina, 1993). Her version of the IES has been used in other leading edge research in the Russian speaking world. Only one item (regarding emotional numbness) was somewhat problematic for our sample in translation. This was quickly discovered and the same extra explanation in Russian was given for all participants. The IES-R was administered orally, due to cultural differences about paper and pencil measures

and due to a desire to allow the women to digress and speak freely about each item as they wished. The IES is not a complete diagnostic measure of PTSD, thus additional questions about the full spectrum of PTSD symptoms were included with it in the interviews, allowing for clinical assessment of PTSD. DATA ANALYSIS Nineteen percent of the women in our sample experienced abortion as necessarily unpleasant but had no significant negative psychological consequences. They felt only relief. Within the sample 35% had some posttraumatic consequences of abortion (i.e. elevated avoidance, intrusion or hyperarousal scores on the IES-R, but not PTSD). Forty-six percent of the sample had evidence for PTSD, exceeding the cut-offs of the IES-R for both the intrusion and avoidance subscales. There are no established PTSD cut-offs for the IES-R on hyperarousal scales. Nevertheless, 21% of the sample had high hyperarousal scores (above 16), and 22% of the sample exceeded the cut-offs in all three subscales. In exploratory analysis, correlations and scatterplots of the variables of interest were examined. Level of education, religiosity, marital status, number of abortions, number of children, and reasons for the abortion were found unrelated to any indicator of PTSD. The Impact of Event Scale was examined and the reliability of the three scales of the IES-R (avoidance, intrusion, and hyperarousal) was established. All the independent variables, except time since abortion, were binarized. Four substantive hypotheses were specified in accordance with our theoretical propositions and four nested models were developed. Hypothesis 1 Attachment to the embryo/fetus, recognition of fetal life, and weeks of pregnancy will be predictive of posttraumatic stress disorder following abortion. This hypothesis was based on clinical reports showing that a woman's perception of the pregnancy, especially attachment to the fetus and recognition of the pregnancy as a human life makes abortion more likely to be traumatic (Speckhard, 1996). Weeks of pregnancy was considered a predictor of trauma based on the view that increased gestation would likely increase feelings of attachment, recognition of life, investment in the pregnancy, difficulty and risk of the procedure, and conflict about choosing abortion. (Although theoretically some variables are related to each other, i.e. attachment, recognition of fetal life and weeks pregnant, there was no serious problem with multicollinearity in general.) More precisely, we regarded weeks of pregnancy as a control variable and adjusted the most important causes of posttraumatic stress-attachment and recognition of fetal life-for this variable. Hypothesis 2 Log length of time after the abortion will be predictive of posttraumatic stress disorder following abortion. Very few studies have looked at rates and predictors of PTSD over time following exposure to a traumatic event. Intuitively, one would expect that increased distance in terms of time from a traumatic event give more opportunities for a positive resolution of it. Clinical work with women following traumatically experienced abortions does not always bear this out. Especially among young women, some find subsequent fertility events healing, others find them triggers for increased or delayed onset PTSD. Likewise, among those immediately traumatized, some remain emotionally numb for a month or more, feeling only relief that the procedure is finished, yet subsequently a full case of PTSD ensues. Rates and predictors of PTSD following abortion over time have never been studied systematically, and it is clearly a complex issue. This is the first study to look at this variable as a predictor. Interestingly a recent study following a large cohort of Gulf War veterans immediately after war and two years later indicated that, counter to intuitive thinking, although low initially, rates of PTSD increased substantially over time (Wolfe, et al., 1999). Despite, clinical indications and these findings for another type of trauma, for this sample we decided to test the more intuitive hypothesis that proximity to the time since exposure will be more predictive of PTSD. Hypothesis 3 Coercion to choose abortion and wantedness of the pregnancy will increase posttraumatic stress following abortion, and support in the decision-making process will act as a buffer for posttraumatic stress. Clinical findings show that when a woman is coerced into an abortion, or her decision is made without support, or she wants the pregnancy but aborts in conflict with her desire, she is more likely to have posttraumatic responses to her abortion. Specific research with abortive women looking at social support has found that women having first trimester abortions who perceived high support from their family, friends, and partners had higher self-efficacy for coping following the abortion and these higher self-efficacy scores, predicted better adjustment on psychological measures but not

on physical complaint measures. Likewise, those who told close others of their abortion but perceived them as less than completely supportive had poorer post-abortion psychological adjustment than women who did not tell or women who told and perceived complete support. These researchers however, found no direct path between social support and final post abortion adjustment, suggesting that it is an important, although probably less crucial predictor variable (Major et al., 1990). Likewise, in a review of literature pertaining to post abortion response, Romans-Clarkson (1989) reports, "women most likely to show subsequent problems are those who were pressured into the operation against their own wishes". This hypothesis is also based upon the general literature on stress that social support has a positive buffer effect, whereas conflicted decision-making and coercion are stress inducers in general and the likely conclusion that aborting a wanted pregnancy would increase the chances of posttraumatic stress. Hypothesis 4 Age will be related to posttraumatic stress curvilinearly. Adolescents and younger women are in a higher risk group for impulsive decision-making, concrete thinking, inability to foresee prolonged consequences of decision-making, and false feelings of invulnerability, etc. which create increased risk for post abortion trauma (Gordon, 1990; Mufel, 2000; Pope et al., 1999; Rue &Speckhard, 1992a). Increased age can also be predictive of posttraumatic stress following abortion for women who subsequently encounter pregnancy, miscarriage, infertility, and menopause if these events get linked in a negative manner with the abortion experience. Dependent Variables The major dependent variable in the hierarchical least squares regressions (OLS) was PTSD as measured by the Impact of Event Scale. In addition, three parts of the scale-Avoidance, Intrusion, and Hyperarousal-were used as dependent variables. We also estimated three logistic regressions on the same independent variables of four binary indicators of post abortion stress which were coded based on information obtained from the interviews: anxiety/panic, guilt, grief, depression and emotional numbness. RESULTS PTSD Regarding the composite index of PTSD as a dependent variable, all of the nested models but the third one are significant, giving evidence in support of the first, second, and fourth hypothesis (see Table 1). Improvement in the third model, due to including support, coercion, and wantedness of pregnancy, is not significant ($p = .254$). Attachment, recognition of life, and time since abortion are highly significant predictors of PTSD ($p < .01$). Increased age (at the time of the interview) is positively related with posttraumatic stress ($p = .024$). Weeks of pregnancy is a nearly significant predictor (probability of .057), with minimal type I error in the second model. In Table 2 we report coefficients for the fourth model and goodnessof-fit statistics for all the nested models of the OLS regression (i.e. of the three components of the IES-R regressed onto the same independent variables). Avoidance Avoidance, with 21% of the variance explained, is predicted by recognition of fetal life and younger age. Interestingly, attachment does not increase the risk of an avoidance reaction, nor does proximity in time of the event, although every nested model is statistically significant, ostensibly giving evidence to confirm all of the hypotheses. However, with the regression coefficient for coercion significant at $p = .014$ in the third model, statistical adjustment for age makes this coefficient insignificant ($p = .057$), thus clarifying that coercion increases an avoidance reaction mainly among younger women. Intrusion In the case of predicting Intrusion, the regression coefficient patterns are similar to those for PTSD, with the first two nested models being significant (for the fourth model $p = .058$ and adjusted $R2 = .263$). Intrusion increases with increase of attachment and recognition of fetal life, proximity to the event in terms of time, and in the older age group. Hyperarousal Hyperarousal increases with an increase of attachment and recognition of life, and with decrease of time since the abortion. The second model is the best one in terms of parsimony, explaining 21% of the variance of hyperarousal. Anxiety / Panic In logistic regression of anxiety/panic on the same predictors (see Table 3), the third model is the most parsimonious, explaining 17% of the variance with the only significant coefficient for social support ($p = .010$). Recognition of life ($p = .058$) and coercion ($p = .081$) are marginally significant predictors in this model. Depression In the case of depression, the best model is the first explaining about 19% of the variance. Attachment is the only significant ($p = .002$) predictor in this model. Guilt The first model is the most parsimonious one in predicting guilt and grief, with sixteen and twenty-eight percent of the

variance accounted for and two significant independent variables: attachment and recognition of life. Emotional Numbness In logistic regression of emotional numbness, the third model was the best one explaining only 1% of the variance with the significant coefficient being time since abortion and wantedness. DISCUSSION Although at the present time, abortion in the former Soviet Union is still heavily relied upon as a form of reproductive control, our findings suggest that it poses serious difficulties for some women. Fortysix percent of our sample evidenced posttraumatic stress disorder, as measured by the IES-R and an additional 35% had some form of posttraumatic symptoms. TMs agrees with American samples using the IES-R. For instance Barnard (1988) in a nonrandom follow-back sample from an abortion clinic three to five years after abortion found 46% of women evidencing some posttraumatic symptoms and 20% had full PTSD, as evidenced by the IES-R. Likewise, Pope, et al. (1999) also using the IES-R reported in preliminary analysis on a investigation of young women experiencing abortion that those in the age group of eighteen to twenty-eight, on average, exceeded or nearly exceeded the cut-offs on both avoidance and intrusion of the IES-R, hence evidencing posttraumatic stress responses as the mean response for that age group. Given that abortion trauma does occur for a significant number of women, it is important to understand the variables predictive of this type of reaction. We had four hypotheses concerning prediction of post abortion PTSD. We found that PTSD is predicted by the following variables: recognition of life, attachment to the embryo/fetus, length of time since the abortion (closer to abortion increased trauma) and increased age (at the time of the interview). (Significance of weeks of pregnancy is also close to a conventional 5% cut-off.) Length of Pregnancy Our understanding of this result is that with increased weeks of pregnancy, there is an increased recognition within the woman of the actuality of pregnancy, with all the consequent bodily changes and an increased recognition of the developing life. This increases the likelihood of changes in self-concept (i.e., I am becoming a mother) and in relation to the embryo/fetus (e.g., "this is a real life" or "this is my baby"), both of which can create a conflict for the woman who then chooses abortion. It is much easier psychologically to end a pregnancy that has never really entered consciousness, as it does not alter selfidentity or involve the perception of the event as a human death. Psychologically it is difficult and potentially traumatic to abort what one has come to view as "my child". In the latter case, the abortion becomes by perception a significant life event, perceived as the death of a real child and perhaps also the altering of self-concept from a protective to a nonprotective mother. Attachment &Recognition of Life Attachment to the fetus/embryo and recognition of life are the strongest and most prevalent predictors of adverse psychological responses to abortion for all of the variables examined. This is a significant finding for clinicians who assist women in pregnancy resolution decisionmaking, as examination of the woman's perception of her pregnancy (i.e. whether she views it as a life, and is attached to it) can predict how she will fare psychologically with an abortion decision. Likewise, clinical work with post abortive women can be better informed if simple questions are posed about how the woman viewed that pregnancy. For instance, gentle queries can be made if she felt it was a life or had an attachment to the pregnancy, and if so, asked if there are any issues she would like to discuss as a result. This can be a gentle way of breaking through posttraumatic avoidance and denial strategies if they are present, to allow for resolution of trauma, anxiety, guilt, grief, and depression. Increasingly researchers are becoming aware of gender differences in decision-making related to significant life events and to life orientation. Attachment is being realized as a central phenomenon in how women weigh decisions and orient themselves (Blustein, 1991; Gilligan, 1977). Our research supports these new theories of women's psychology. Our results show that in their responses after abortion, women take into account both the attachments they have formed to the developing embryo/fetus as well as the type of attachments present or not present in their decision making (i.e. supportedness or lack of support). There are very few studies of attachment in pregnancy (Leifer, 1980; Speckhard, 1996), and this study demonstrates that attachment can occur very early in pregnancy and have significant clinical results even when the pregnancy is terminated. Attachment and recognition of life were predictors of guilt and grief and attachment was also a predictor of depression. In our estimation this reflects standard posttraumatic stress theory that individual perception of a

traumatic stressor is the defining issue (Donovan, 1991). Hence, whether or not society views abortion as involving the death of a human being is less important than the woman's own views of the event. When an abortion is perceived by the woman as involving a human death event, and one of a being to whom one is related (i.e. "my child") it can act as a traumatic stressor capable of causing PTSD as well as clinically significant responses of guilt, grief and depression. We found that avoidance didn't increase the risk of attachment reactions. It may be that women with attachment to the embryo/fetus are more likely to express their feelings (depression, grief) than avoid them. A woman who recognizes life but is able to avoid attachment to it may be able to avoid negative feelings more easily than the woman who forms an attachment and cannot contain her emotions. Social Support &Anxiety / Panic Lack of social support in decision-making is also a significant predictor of anxiety/panic. This can be understood as a lack of groundedness and absence of a holding environment in a time of deep emotional crisis. Given such a significant decision, a woman who lacks social support does not have the attachments and support necessary to help her express her emotions (potentially of fear, grief, guilt, conflict etc.) and to subsequently protect her from the experience of anxiety and panic following her decision. The speechless terror of a traumatic experience, and the inability to speak of it to others and thereby move it into life's narrative has been described by van der Kolk (1994). When there is no social support and no ability to resolve the trauma, it often moves into expression on the psychosomatic level. While our study did not specifically examine medical results following abortion, many women complained of gynecological problems. It was unclear if they suffered from real illnesses or if their problems were psychosomatic expressions of trauma. Age at Time of Interview and Proximity in Time to the Abortion We predicted that age at the time of the interview would be a predictor of PTSD. We separated two groups of women: less than age 22 and more than 40 for analysis. This is supported by the literature which identifies adolescents and younger women as being in a higher risk group for impulsive decision-making, concrete thinking, inability to foresee prolonged consequences of decision-making, and false feelings of invulnerability, conditions which create increased risk for post abortion trauma (Kegeles, et al., 1988; Sturges, et al., 1996). Mufel (2000) also compared two samples of former Soviet Union women, adolescents and adults for negative psychological consequences of abortion decision-making. In her results the adolescents were at increased risk for post abortion distress. Likewise, Pope and colleagues (1999) found increased incidence of post abortion stress in minors compared to adult women. According to our results, younger women as a group are at higher risk for post abortion trauma. However individually, increased age can be a risk factor if it is linked to negative fertility experiences or other losses that trigger a delayed PTSD or retrigger a posttraumatic reaction to miscarriages, infertility, menopause, or death of a child. We found that older women (at the time of the interview) more likely to experience full PTSD than younger women. Also avoidance is predicted more often by younger women, but intrusion by older women. The likely explanation is that avoidance is a common psychological defense of adolescents and may be successful for them as they continue to avoid subsequent pregnancies and motherhood, until time gives them either opportunities to resolve their feelings about the abortion or experiences that retrigger feelings so strongly that PTSD results. This finding supports the results in Gulf War veterans that rates of PTSD actually increased with time (Wolfe, et al., 1999). Coercion also increases avoidance reactions mainly among younger women. It is likely that younger women were much more likely to have faced "choiceless choices" having had the "choice" to keep or abort their pregnancy while in fact being coerced into their decision more often than older women by their families/partners or circumstances. Thus when a woman allows herself to be coerced she may avoid taking responsibility and avoid feelings about the decision since she does not make the decision for herself. Avoidance, with 21% of the variance explained, is predicted by recognition of fetal life and younger age. However, attachment does not increase the risk of an avoidance reaction, nor does proximity in time of the event. Hence it may be that those who abort at a younger age, even when troubled by recognizing fetal life can cope by avoidance, but those who are older and make attachments in pregnancy or who have already experienced motherhood have a much harder time using strategies of

avoidance to cope with post abortion distress. Indeed it was not unusual to find that women in the older group had traumatic responses to their abortions triggered by reproductive experiences: motherhood or lack of; exposure to others abortion experiences, re-triggering their own trauma; and even fears about their own daughters repeating their experience. We expected that time allows the women to grieve and work through feelings of guilt and/or trauma as is necessary. For many women traumatized by abortion, a subsequent birth of a healthy baby can significantly reduce posttraumatic responses as the birth of a healthy baby may alleviate feelings of grief and fears driven by guilt. However, individual interviews as well as previous clinical cases in the author's background also bear out that in individual cases, timing of subsequent fertility events (especially losses) can also re-trigger PTSD responses or cause a delayed PTSD onset. In these cases, a negative fertility event can retrospectively change the perception of the abortion so what was not originally experienced as trauma becomes traumatic (Speckhard, 1996). This sometimes happens for women who view by ultrasound a pregnancy after an abortion and suddenly decide that what was aborted previously was really "a baby", redefining the event as traumatic. It also occurs for women who miscarry a subsequent pregnancy or find themselves infertile. In these cases they redefine the abortion as losing the only child they could ever have had, or the pregnancy loss or infertility as "punishment" for the abortion. Emotional Numbness and Wantedness of Pregnancy In a related result we found that the most significant predictor of emotional numbness was wantedness of the pregnancy and time since abortion. It appears that women who abort a wanted pregnancy cope by numbing their emotions, which is another feature of posttraumatic avoidance. This is a very important feature to understand both at the time of the abortion decision and afterwards, as a woman entering an abortion experience may already be using avoidance and emotional numbing to cope with a decision with which she is uncomfortable or being coerced into. Abortion providers need to be aware of these phenomena so they do not agree to provide abortions to women who are in a dissociative state when they are giving their consent to an abortion. This phenomenon was reported by an American abortion provider who observed that from time to time, some women had dissociative episodes during their abortions so acute they reverted to fetal positions or began speaking in "baby talk" (Karlin, 1997). Obviously this should be avoided if possible by identifying such women ahead of time in pre-abortion counseling. Likewise, after an abortion, denial, avoidance and emotional numbing must be understand as central features of post abortion trauma. A clinician can be confused if they do not see what can look "on the surface" as the absence of symptoms when there is really the presence of significant clinical distress. (On the other hand, it is important not to label a positive or neutral response to abortion as denial). Difficulties in Researching Post-Abortion Responses Post-abortion trauma is difficult to research. Most studies are retrospective, which creates issues about whether or not the trauma symptoms being studied are indeed linked to the abortion. It was clear in our interviews that women were able to identify distress as linked directly to their abortion experiences when it was present. For instance, women who had intrusive phenomena gave examples of flashbacks of the actual procedure, triggering of flashbacks that occurred when they revisited the clinic, and intrusive thoughts about the fetus and child that would have been. If they expressed any trauma, panic, or depression unrelated to the abortion in their estimation, or ours, it was excluded. Many women who are deeply affected by their abortion experiences do not wish to revisit them. Almost all samples have high dropout rates, or low participation in samples. In the National Survey of Family Growth in the United States, it was found that only half as many women having abortions admit to it than would be predicted by national abortion statistics (AGI, 1987) meaning that half choose not to speak of an abortion or call it something else, perhaps a miscarriage (Pratt, 1988, personal communication). Many women in our sample became agitated before or during the interviews, some saying they were not sure why they had agreed to be interviewed, although they calmed as they found safety in the interview. It appears that post-abortive women rely heavily on avoidance strategies to cope with post abortion emotional distress. For instance in our interviews many women were able to tell their history with limited emotions, but when they were given the IES-R it was clear that they were utilizing avoidance strategies. Likewise, when specifically questioned by the IES-R

on intrusive phenomena some women began to admit to many more symptoms than were originally spontaneously volunteered. In all cases we accepted denial rather than challenge it in any manner. High utilization of avoidance is confirmed by Bagarozzi (1994) who reported that the most prevalent feature of post abortion trauma in his clinical samples was that of denial. In our sample we also found much higher incidence of avoidance than of traumatic intrusion (as measured on the IES-R). For instance, 43% of our sample met the posttraumatic criteria for the IES-R intrusion subscale, and 70% met the criteria on the IES-R for avoidance. Pope et al., 1999 also found a mean score in all age groups of women in their sample that exceeded or nearly met the cut-off on the IES-R for avoidance. CONCLUSIONS AND RECOMMENDATIONS Given very different social circumstances, degrees of religiosity, politics concerning abortion, and reasons for choosing abortion, there is evidence in both the former Soviet Union and in U.S. samples for post abortion trauma. This study examined predictors of abortion related PTSD in a former Soviet Union sample and found recognition of life, attachment, length of time since the abortion and weeks of pregnancy to be the strongest predictors of abortion PTSD. Recognition of life and attachment were also the strongest predictors of all adverse reactions to abortion measured in this study. This supports the increased movement in gender sensitive research to understand that women heavily weigh their attachments, even to a pregnancy, in decision-making and in their responses to events that break attachments; and that women form attachments to the fetus/embryo early in pregnancy. Interestingly, from research looking at attachment style and broken attachments (including abortion) Allanson and Astbury (2001) suggest that pregnancy may be uniquely placed to highlight more complex attachment processes, something important for prospective researchers to consider. Future research is needed with a randomly selected sample to determine the prevalence of national levels of post abortion trauma in both the former Soviet Union and in Western samples, and to examine if the same variables are predictors of abortion related PTSD in other cultures. Likewise, research is needed to understand the decision-making processes that lead to abortion choices for women who are at risk for negative psychological sequelae, as well as programs to protect their mental and physical health. Future researchers need to be aware of the high level of denial and avoidance evident in women who are distressed by their abortions and to design protocols that assist them in participating in a manner that allows their experiences to be accurately represented. This is also true for clinicians. Post abortion trauma research is an extremely important gender related issue. Family planning, contraceptive needs and abortion practices individually and jointly have very central and profound influences on the lives of women. Understanding this can help policy makers to design family planning policies in ways that assist women to understand their own risk factors and to choose behaviors that minimize negative psychological outcomes. References REFERENCES American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: American Psychiatric Association. Allanson, S. &Astbury, J. (2001). Attachment style and broken attachments: Violence, pregnancy, and abortion. Australian Journal of Psychology, 53(3), 146-151. Bagarozzi, D. (1994). Identification, assessment and treatment of women suffering from post traumatic stress after abortion. Journal of Family Psychotherapy, 5(3), 25-55. Barnard (1990). The long-term psychosocial effects of abortion. Dissertation Abstracts International 51/08-B: 4038. Blustein, D. L., Walbridge, M. M., Friedlander, M. L. &Palladino, D. E. (1991). Contributions of psychological separation and parental attachment to the career development process. Journal of Counseling Psychology, 38(1), 39-50. Butterfield, L (1988). Incidence of complicated grief and posttraumatic stress in a post-abortion population. Dissertation Abstracts International 49/08-B: 3431. Donovan, D. M (1991). Traumatology: A field whose time has come. Journal of Traumatic Stress, 4(3), 433-436. Forst, J. G. (1992). The psychosocial aftermath of abortion. Masters Abstracts 31/01: 151. Gordon, D. E. (1990). Formal operational thinking: The role of cognitive-developmental process in adolescent decision-making about pregnancy and contraception. American Journal of Orthopsychiatry, 60, 346-356. Kegeles, S. M., Adler, N. E. &Irwin, C. E. (1988). Adolescents and condoms: Associations of beliefs with intentions to use. Paper presented at the 96th Annual Convention of the American Psychological Association, Atlanta, GA. Karlin, E. (1997). Affidavit of

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APPENDIX

Table 1
Hierarchical OLS Regression of PTSD on Circumstances of Abortion, $N = 150$

Predictor	*Model 1*	*Model 2*	*Model 3*	*Model 4*
Constant	22.700**	25.569**	25.106**	24.462**
Attachment	9.188**	8.419**	7.864**	8.099**
Recognition of life	5.904*	6.825**	6.687**	6.945
Weeks of pregnancy	.429	.426	.397	.341
Log time		−2.933	−2.854	−3.354**
Support			−1.197	−.964
Coercion			3.695	3.548
Wantedness			−.789	−2.76
Age (less than 22)				2.475
Age (more than 40)				8.453*
R2 adjusted	.255	.304	.310	.329
F change (df)	18.015** (3,146)	11.303** (1,145)	1.373 (3,142)	3.071 (2,140)

Note: '*'—p < .05, '**'—p < .01.

Table 2
OLS Regression of Three PTSD Scales on Circumstances of Abortion

Predictor	*Avoidance*	*Intrusion*	*Hyperarousal*
Constant	14.528**	9.890**	6.664**
Attachment	2.672	5.326**	3.432*
Recognition of life	3.663*	3.382*	4.237**
Weeks of pregnancy	.248	.094	.059
Log time	−.959	−2.392**	−1.317*
Support	−1.724	.810	−1.698
Coercion	2.758	.805	−.412
Wantedness	−1.164	.905	−.344
Age (less than 22)	4.479*	−1.997	−2.005
Age (more than 40)	3.263	5.440*	.601
R^2 adjusted	.208	.263	.208
F change, model 1	7.748**	14.571**	13.066**
F change, model 2	4.492*	8.604**	3.969*
F change, model 3	3.173*	.331	.982
F change, model 4	3.686*	2.903	.717

Note: '*'—$p < .05$, '**'—$p < .01$.

Table 3
Logistic Regression of Anxiety, Depression, Guilt, and Grief on Circumstances of Abortion

Predictor	*Anxiety*	*Depression*	*Guilt*	*Grief*	*Numbness*
Constant	−.846	.090	.712	−1.534**	.985*
Attachment	.689	2.792**	1.698*	1.181*	−.172
Recognition of life	.920	.709	1.347*	1.655**	−.164
Weeks of pregnancy	.017	.056	.094	.033	.021
Log time	−.293	.107	−.351*	−.291	−.401*
Support	−1.011*	.372	−.199	−.194	−.066
Coercion	.846	1.376	.179	.828	−.090
Wantedness	−.605	−.916	−.003	−.127	−1.129*
Age (less than 22)	−.516	−1.635	−1.117	−.616	−.884
Age (more than 40)	.392	−1.145	−1.412	−.356	−.232
Cox-Snell pseudo-R^2	.174	.229	.200	.307	.114
χ^2 change, model 1	13.703**	30.773**	26.718**	48.460**	5.393
χ^2 change, model 2	1.038	.440	2.225	1.807	2.903
χ^2 change, model 3	12.882**	2.613	.203	3.656	7.232
χ^2 change, model 4	1.034	5.185	4.385	1.147	2.583

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