

周産期メンタルヘルス: 発表論文

Perinatal mental health: references

北村俊則, 島悟, 竹内ますみ, 青木まり: 妊娠・出産に伴う精神障害の疫学的研究—妊娠初期の感情障害の罹患率とその発病危険因子—. 社会精神医学, 10(3); 255-263, 1987.

島悟, 北村俊則, 青木まり, 菅原ますみ, 坂倉啓一: 出産に伴う精神障害の縦断的研究. 日本医事新報, 3344, 43-49, 1988.

120 例の妊産婦を対象として, 妊娠中から出産後に至る精神医学的縦断研究を施行した. その結果, 出産後に感情障害を中心とする精神障害が 23.4 %の褥婦に認められた. またマタニティーブルーも従来の報告よりやや頻度は低いものの, 9.3 %の症例で認められた. 妊娠・出産に際しては十分な精神医学的観察と配慮が望まれる.

菅原ますみ, 青木まり, 北村俊則, 島悟: 乳児期における気質的特徴の構造—日本語 Revised Temperament Questionnaire の検討—. 湘北短期大学紀要, 9; 157-163, 1988.

The purpose of the study was to extract dimensions of temperamental characteristics in infants' behaviour. Factor analysis of the Carey and McDevit (1978) Revised Infant Temperament Questionnaire (Japanese version) with a representative sample of 817 Japanese infants (6-month-old) provided limited empirical support for its original 9 dimension structure. Of the original 9 dimensions, only "Rhythmicity" and "Attention Span and Persistence" emerged as relatively pure factors. The other factors were named "Fearfulness for Stranger and Strange Situation", "Manageability", seven factors with another studies showed possibility of synthesizing infant temperament measurements.

菅原ますみ, 北村俊則, 青木まり, 島悟: 妊娠中の母親の抑うつと新生児の行動特徴. 小児保健, 47(5); 577-581, 1988.

Brockington, I. F. and Kumar, R. (eds.) Motherhood and mental illness. 保崎秀夫 (監訳) 北村俊則, 菅原ますみ, 青木まり, 佐藤達哉 (共訳) 母性と精神疾患, 学芸社, 東京, 1988.

Kitamura, T., Sugawara, M., Aoki, M. and Shima, S.: Validity of the Japanese version of the GHQ among antenatal clinic attendants. Psychological Medicine, 19(2); 507-511, 1989.

The validity of the Japanese version of the 30-item General Health Questionnaire was examined against the semi-structured interview-based Research Diagnostic Criteria (RDC) as external criteria. The GHQ total score discriminated 'cases' and 'non-cases' satisfactorily but its recommended cut off point was higher (7/8) than that of the original English version (4/5). Discriminant function analysis revealed that only 13 items contributed to the discriminatory power and that their discriminant function score was better than a simple summation of the 30 GHQ item scores in terms of validity.

北村俊則, 菅原ますみ, 島悟, 青木まり, 佐藤達哉: 妊娠・出産と母子精神衛生. 郷久鉞二 (編) マタニティー・ブルー. pp 131-148, 同朋社, 京都, 1989.

青木まり, 北村俊則, 島悟, 菅原ますみ: ベイビー・ブルー・プロジェクト. 小此木啓吾, 渡辺久子 (編) 別冊発達9 「乳幼児精神医学への手引き」, pp. 74-79, ミネルヴァ書房, 京都, 1989.

菅原ますみ, 北村俊則, 戸田まり, 島悟, 佐藤達哉: 発達初期における母親の精神的健康と乳児の気質的特徴との関連. 発達医学と心理学, 1(2); 249-256, 1990.

本研究は, 出産後の母親の精神的健康度が乳児の気質的特徴とどのような関連を持つかについて検討することを目的に行われた. 817名の母親について出産後5日, 1か月, 6か月の3辞典で縦断的に精神的健康度について判定を行った. 3辞典にわたる持続性不健康度・5日目および1か月に不健康を呈した初期不健康群・6か月に至って初めて不健康を呈した後期発症群, そして健康群の4群を設定し, 生後6か月時の乳児の気質的特徴と比較した. 乳児のストレスに対する耐性と注意の集中性に関する気質的特性において, 持続性不健康群と健康群との間に有意な差が見いだされた. また複数の気質的特性で初期不健康群と健康群とに差が見られ, 発達初期の母親の精神状態が, 何らかの養育行動上の媒介変数を経て乳児の気質的特徴に影響する可能性が示唆された.

北村俊則, 島悟, 戸田まり, 菅原ますみ: 軽症感情障害の家族内発症危険率. 脳と精神の医学, 2(1); 273-277, 1991.

一般病院産科外来に初診の妊婦120名を妊娠期間中観察したところ19名(16%)になんらかの感情障害の発症を認めた. これはすべて軽症のうつ病であった. この群を妊娠関連感情障害群とし, それ以外を対照群とした. 両群について家庭歴研究診断基準(FH-RDC)に沿った第1度親族中の精神障害の発症危険率(morbid risk: MR)を求めた. FH-RDC うつ病のMRは妊娠関連感情障害群で4.8%, 対照群で1.3%, 不快気分を伴うその他の精神障害を併せて求めると, それぞれ7.2%と1.8%であった. 有無の差には至らないが, 感情障害の家庭内発生率が妊娠関連障害で3~4倍であることを認めた.

菅原ますみ, 佐藤達也, 島悟, 戸田まり, 北村俊則: 乳児期の見知らぬ他者への恐れ—生後6・12・18か月の縦断的関連—. 発達心理学研究, 3(2); 65-72, 1992.

乳児期における見知らぬ他者への恐れについて縦断的に検討をおこなった. 生後6か月(817名)および生後12か月(722名)では, 見知らぬ他者に対する乳児の反応についての質問紙を用いて測定を行った. 生後18か月には, 生後6か月および12か月時の調査を受けた被験者のうち33名がThompsonとLamb(1982)による手続きを用いて実験的状況で測定された. 18か月時の見知らぬ他者への恐れ得点と6か月時および12か月時の得点間に有意な正の相関が見られた. この結果は見知らぬ他者への恐れにみられる個人差は乳児期の1年間にわたって比較的安定していることを示唆している. 3時期で性差がみられた: 女兒の方が男児より見知らぬ他者にたいして恐れる傾向が高かった.

北村俊則, 島悟, 戸田まり, 菅原ますみ: 疫学としての社会精神医学—妊娠初期のうつ病の発症要因の研究を中心にして—. 社会精神医学会雑誌, 1(1); 89-92, 1993.

Kitamura, T., Shima, S., Toda, M. A. and Sugawara, M.: Comparison of different scoring systems for the Japanese version of the General Health Questionnaire. Psychopathology, 26; 108-112, 1993.

The General Health Questionnaire (GHQ) is a self rating questionnaire to identify current non-organic non-psychotic morbidity. Each item of the GHQ has four response codes; the left-side one represents the most healthy while the right-side one the most ill. The ability of four scoring systems of the GHQ items to discriminate psychiatric cases from non-cases, 0-0-0-1 (codes 1-3 = 0, code 4 = 1), 0-0-1-1 (codes 1 and 2 = 0, code 3 and 4 = 1, the original GHQ scoring) and 0-1-1-1 (code 1 = 0, code 2-4 = 1), were compared against the greatest increase in the rate of cases between neighbouring codes and by using discriminant function analysis with the three scoring systems as predictors among 108 antenatal clinic attenders. The data revealed that the original GHQ scoring was the most valid in its ability to identify psychiatric cases.

Kitamura, T., Shima, S., Sugawara, M. and Toda, M.: Psychological and social correlates of the onset of affec-

tive disorders among pregnant women. *Psychological Medicine*, 23(4); 967-975, 1993.

One hundred and twenty women recruited from attenders at the antenatal clinic of the Obstetrics Department of a general hospital were asked to complete *ad hoc* questionnaires during pregnancy; they were then interviewed by psychiatrists using a structured diagnostic interview, the Schedule for Affective Disorders and Schizophrenia (SADS). Nineteen (16%) women were identified as having an onset of an affective disorder during the period of pregnancy, mainly (68%) during the first trimester. As compared with the women without any such onset (controls), the women with pregnancy-related affective disorder (PRAD) were characterized by (1) it being their first pregnancy or first delivery with past termination of pregnancy, (2) early loss of either parent by death, (3) high Eysenck Personality Questionnaire (EPQ) Neuroticism (N) and Psychoticism (P) scores, (4) living in a flat with either a plan to stay there after the forthcoming childbirth or an expectation that their accommodation would be crowded, and (5) negative response to the news of the pregnancy by the husband with low intimacy. The effects of these factors were additive since the probability of developing a PRAD episode was highly correlated with the number of factors reported.

佐藤達哉, 菅原ますみ, 戸田まり, 島悟, 北村俊則: 育児に関するストレスとその抑うつ重症度との関連. *心理学研究*, 64(6); 409-416, 1994.

Mothers' difficulties concerning child-rearing were conceptualized as rearing-related stress (RRS). Eight hundred and seventeen mothers who had six month-olds infants were asked to rate 28 RRS items and 20 items on the depressive severity scale (Zung, 1956). The main results were summarized as follows: (1) Twenty-two items of RRS were analyzed by Hayashi's quantification (type-III) method, and two hypothesized dimensions were extracted. These are named children-related rearing stress (CRRS) and mothers-related rearing stress (MRRS). (2) RRS was related to mother's depressive severity. (3) Linear relationship of "CRRS-MRRS-depression severity" was examined by partial correlation analysis. (4) Primiparae experienced more RRS than multiparae. These results suggested that RRS could be considered as a process. i.e., CRRS influenced MRSS and then MRRS influences depressive severity. The RRS model is in accord with the psychological stress model of Lazarus and Folkman (1986). Lastly, possible preventive strategies for mothers' RRS were discussed in the light of RRS model.

Kitamura, T., Toda, M. A., Shima, S. and Sugawara, M.: Validity of the repeated GHQ among pregnant women: a study in a Japanese general hospital. *International Journal of Psychiatry in Medicine*, 24(2); 149-156, 1994.

Objective: The authors examined the variability of the validity of the General Health Questionnaire (GHQ) on two different occasions. **Method:** The subjects were 120 pregnant women attending an antenatal clinic of a general hospital in Japan. The GHQ was distributed twice – in the first and third trimesters. They were then interviewed by psychiatrist blind to the GHQ scores using the standard and the "change" version of the Schedule for affective Disorders and Schizophrenia (SADS). **Results:** Of 120 women, 108 and ninety-eight completed the GHQ and were successfully interviewed in the first and third trimesters, respectively. Seventeen percent (18/108) and 13 percent (13/98) women were given RDC diagnoses in the first and third trimesters, respectively: They were designated as cases. Despite a satisfactory discriminatory power of the GHQ on the first occasion, the validity measures of the GHQ on the second occasion were generally poor. Thus, the sensitivity was 39 percent and specificity 82 percent for cut-off point of 7/8. **Conclusions:** The GHQ should be validated separately when distributed repeatedly to the same subjects.

菅原ますみ, 島悟, 戸田まり, 佐藤達哉, 北村俊則: 乳幼児期に見られる行動特徴—日本語版 RITQ および TTS の検討—. *教育心理学研究*, 42(3); 315-323, 1994.

The main purpose of the study was to investigate dimensions of behavioural characteristics in early childhood. Factor analysis of Revised Infant Temperament Questionnaire (Carey & McDevitt, 1978) and the Toddler Temperament Scale (Fullard, McDevitt & Carey, 1984) with a representative sample of 817 (RITQ) and 615 (TTS) Japanese children (RITQ: 6-month-old, TTS: 18-month-old) provided limited empirical support for its original 9-dimension structure. Of the original 9 dimensions, "rhythmicity", "attention span and persistence" (RITQ

and TTS) and “distractibility”, “intensity of reaction” (TTS) emerged as relatively pure factors. The other factors were named “fearfulness for stranger and strange situation”, “frustration tolerance”, “audio-visual sensitivity”, “tactile sensitivity” and “sensitivity to food”. Comparison of these factors with other studies showed possibility of synthesizing measurement of behavioural characteristics in early childhood.

Kitamura, T., Toda, M. A., Shima, S., and Sugawara, M.: Early loss of parents and early rearing experience among women with antenatal depression. *Journal of Psychosomatic Obstetrics and Gynaecology*, 15(3); 133-139, 1994.

The relationship of depressive disorders with early parental losses and rearing experiences was studied among 120 pregnant women. They were diagnosed following the Research Diagnostic Criteria using the Schedule for Affective Disorders and Schizophrenia. Loss experience was defined either as loss a parent before the age 16 by death, or separation for 12 months or longer. The perceived rearing experience was examined by administering the Parental Bonding Instrument (PBI). An onset of depressive disorders, antenatal depression, was observed among 19 (16%) women. Those women with antenatal depression were significantly more likely to have experienced bereavement of either of the parents (21%) than those women without it (5%). Discriminant function analysis revealed that two PBI scores lower paternal care and higher maternal protection were significant in predicting antenatal depression. Parental bereavement and ‘affectionless control’ (low care and overprotection) seem to be additive in predisposing to antenatal depression, though the small number of the samples render statistical analysis impracticable.

Kitamura, T., Shima, S., Sugawara, M. and Toda, M. A.: Temporal variation of validity of self-rating questionnaires: Repeated use of the General Health Questionnaire and Zung’s Self-rating Depression Scale among women during antenatal and postnatal periods. *Acta Psychiatrica Scandinavica*, 90(6); 446-450, 1994.

The 30-item General Health Questionnaire (GHQ) and Zung’s Self-Rating Depression Scale (SDS) were distributed to 120 pregnant women 4 times – in early and late pregnancy and 5 days and 1 month after the child was born. The validity of the questionnaires was assessed against the subjects’ Research Diagnostic Criteria (RDC) diagnosis. Both the GHQ and SDS sufficiently identified cases of minor mental disorder and depressive disorders respectively in early pregnancy; They lost their validity on the subsequent two occasions, but gained it again 1 month after the birth; the optimal cut-off points varied accordingly. This study suggests that the optimal cut-off point for a questionnaire should be validated against an externally determined clinical diagnosis whenever the instrument is used repeatedly on the same population.

Toda, M. A., Sugawara, M., Kitamura, T. and Shima, S.: Relationship between socioeconomic status and maternal attitudes among Japanese mothers. *Annual Report Research and Clinical Center for Child Development Faculty of Education Hokkaido University*, 18; 13-18, 1996.

Kitamura, T., Sugawara, M., Sugawara, K., Toda, M. A. and Shima, S.: Psychosocial study of depression in early pregnancy. *British Journal of Psychiatry*, 168(6); 732-738, 1996.

Background The psychosocial correlates of depression during pregnancy were explored. **Method.** Pregnant women attending the antenatal clinic of a general hospital ($n = 1329$) received a set of questionnaires including Zung’s Self-Rating Depression Score (SDS). SDS high scores (> 49) (the cases: $n = 179$) were compared with low scores (< 38) (the controls; $n = 343$) **Results** The cases were characterised by: first delivery; more nausea, vomiting, and anorexia; more menstrual pain and premenstrual irritability; early paternal loss; lower maternal care and higher paternal overprotection; higher public self-consciousness score; more smoking and use of medication in pregnancy; unwanted pregnancy; negative psychological response to the pregnancy by the women and husband; poor intimacy by the husband; and having remarried.

岡野禎治, 村田真理子, 増地聡子, 玉木領司, 野村純一, 宮岡等, 北村俊則: 日本版エジンバラ産

産後うつ病自己評価票 (EPDS) の信頼性と妥当性. 精神科診断学, 7(4); 525-533, 1996.

産後うつ病のスクリーニング・テストとして使用されているエジンバラ産後うつ病自己評価票 (EPDS) の日本語版 (再英訳済) を試案し, その信頼性と妥当性について検討した. 被験者は産褥婦対照群 43 名, 産後うつ病群 4 名, 非妊産婦対象群 115 名を用いた. 信頼性に関しては, 非妊産婦の再テスト法による順位相関係数が 0.92, Cronbach の α 係数が 0.78 と高い信頼性を示した. 妥当性については, 産褥婦対照群と産後うつ病群における総得点の差, 項目別得点の差, 区分点 8/9 とした場合の有効性について検討した. その結果, 産後一か月の総得点は対照群と比較して産後うつ病群において有意に高く, 項目別には 5 項目で有意差が認められた. 区分点を 8/9 とした場合の鋭敏度は 0.75, 特異度 0.93 と高い妥当性を示した. 以上より, 日本版 EPDS は産後うつ病の自己評価票として信頼性を有し, 簡便なスクリーニング・テストとしても臨床的に有用であると思われる.

Kitamura, T., Shima, S., Sugawara, M. and Toda, M. A.: Clinical and psychosocial correlates of antenatal depression: a review. *Psychotherapy and Psychosomatics*, 65; 117-123, 1996.

In contrast to the considerable research on post natal depression, less attention has been paid to that occurring during pregnancy-antenatal depression (AD). However recent investigations have studied depression among pregnant women not necessarily requiring psychiatric hospitalisation but needing psychological support and help. A controlled study showed that the rate of AD was significantly higher than that of depression among non-pregnant women: the reported incidence varies between 4 and 29%. AD was found to be associated with: (1) obstetric factors (first pregnancy, first delivery, and past history of abortion); (2) early experience (loss of father); (3) personality (high neuroticism score); (4) attitudes towards the present pregnancy (perplexity of the husband); (5) accommodation factors (non-detached housing, and expected crowding after birth of the child, and (6) social support (low level of intimacy with the husband). Differential effects of these factors in the development of AD are to be studied in future research, particularly in conjunction with investigation of hormonal variables.

北村俊則 : 産後うつ病とその援助. 母子保健情報, 33, 15-18, 1996.

北村俊則 : 女性とうつ病. *Psychiatry Today*, 15, 2-4, 1996.

Sugawara, M., Toda, M. A., Shima, S., Mukai, T., Sakakura, K. and Kitamura, T.: Premenstrual mood changes and maternal mental health in pregnancy and the postpartum period. *Journal of Clinical Psychology*, 53(3); 225-232, 1997.

To investigate the relationship between premenstrual mood changes and maternal mental health in the perinatal period, a prospective questionnaire survey of 1,329 women was carried out. Women with a premenstrual mood changes (irritability) before pregnancy showed significantly higher Zung's Self-rating Depression Scale (SDS) scores than those without it, throughout pregnancy and the postpartum period (6 time points: early, middle, and late pregnancy, 5 days, 1 month, and 6 months after childbirth). In addition, women with premenstrual irritability had greater anxiety about pregnancy and delivery, were more reluctant to accept mother roles, and felt their babies (fetuses or neonates) were more vulnerable. These findings suggest that premenstrual mood change is correlated with unstable mental health throughout the perinatal period.

北村俊則 : 周産期の女性のうつ病 : その頻度と発生要因. 日本新生児学会雑誌, 33(4); 454-456, 1997.

Kitamura, T., Toda, M. A., Shima, S., Sugawara, K. and Sugawara, M.: Social support and pregnancy: I. Factorial structure and psychosocial correlates of perceived social support. *Psychiatry and Clinical Neurosciences*, 52 (1); 29-36, 1998.

In a questionnaire survey among 1329 first-trimester pregnant women, social support providers were divided by factor analysis into husband, 'premarital network' (parents and friends) and 'postmarital network' (children and mother-in-law), while social support contents were

divided into 'given' (emotional, informational and instrumental support) and 'giving' (nurturing opportunity and general confiding). The husband was most frequently nominated by the women as the support provider in both of these categories. Multiple regression analyses revealed that a husband's poor 'given' support was predicted by the presence of premenstrual irritability, a lower level of the woman's own education, her smoking habits and past experience of pregnancy termination, while a husband's poor 'giving' support was predicted by current older age, smoking habits and past experience of delivery.

Kitamura, T., Toda, M. A., Shima, S., Sugawara, K. and Sugawara, M.: Social support and pregnancy: II. Its relationship with depressive symptoms among Japanese women. *Psychiatry and Clinical Neurosciences*, 52 (1); 37-45, 1998.

In a questionnaire survey among 1329 first-trimester pregnant women, both the husband support measures and unwanted pregnancy ('stressor' agent in pregnancy) showed significant effects on an elevated score of the cognitive disturbance subscale of the Zung's self-rating depression scale (SDS), while only unwanted pregnancies showed an effect on an elevated score of the dysphoric mood subscale of the SDS. However, no interaction was observed between the husband support measures and unwanted pregnancy, therefore the effect of the husband's social support on the cognitive disturbance score was not that of a buffer, but rather main effectors. Finally, multiple regression analyses showed that the dysphoric mood score was preceded by unwanted pregnancy, premenstrual irritability, public self-consciousness, and maternal overprotection; while the cognitive disturbance score was preceded by unwanted pregnancy, husband reduced 'given' and 'giving' support, maternal reduced care and overprotection, paternal reduced care, low annual income, low private self-consciousness, and smoking. These findings suggest that the husband's support for a pregnant woman is effective only in reducing cognitive symptoms, and that different symptomatic constellation have different sets of psychosocial correlates.

Kitamura, T., Sugawara, M., Shima, S. and Toda, M. A.: Relationship of order and number of siblings to perceived parental attitudes in childhood. *Journal of Social Psychology*, 138 (3); 342-350, 1998.

Despite the increasingly recognized link between perceived parenting behaviour and the onset of psychopathology in adults, studies of the possible determinants of perceptions of parenting behaviour are rare. In a sample of 1,145 pregnant Japanese women, correlations were examined between the numbers and sexes of siblings and perceived rearing practices, as rated by the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979). The participants with more elder sisters viewed their parents' attitudes as less caring, whereas those with more brothers, particularly younger brothers, viewed their parents' attitudes as less overprotective. However, the proportion of the variance of all the PBI scores explained by different types of sibling was very small.

Aoki, K., Furukawa, T., Ogasawara, M., Hori, S. and Kitamura, T.: Psychosocial factors of recurrent miscarriages. *Acta Obstetrica et Gynecologica Scandinavica*, 77; 572-573, 1998.

Kitamura, T., Toda, M. A., Shima, S. and Sugawara, M.: Single and repeated elective abortions in Japan: A psychosocial study. *Journal of Psychosomatic Obstetrics and Gynecology*, 19(3); 126-134, 1998.

Despite its social, legal and medical importance, termination of pregnancy (TOP) (induced abortion) has rarely been the focus of psychosocial research. Of a total of 1329 women who consecutively attended the antenatal clinic of a general hospital in Japan, 635 were expecting their first baby. Of these 635 women, 103 (16.2%) had experienced TOP once previously (first aborters), while 47 (7.4%) had experienced TOP two or more times (repeated aborters). Discriminant function analysis was performed using psychosocial variables found to be significantly associated with either first abortion or repeated abortion in bivariate analyses. This revealed that both first and repeated aborters could be predicted by smoking habits and an unwanted current pregnancy while the repeated aborters appear to differ from first aborters in having a longer pre-marital dating period, non-arranged marriages, smoking habits, early maternal loss experience or a low level of maternal care during childhood. These findings suggest that both the frequency of abortion and its repetition have psychosocial origins.

Sugawara, M., Mukai, T., Kitamura, T., Toda, M. A., Shima, S., Tomoda, A., Koizumi, T., Watanabe, K. and

Ando, A.: Psychiatric disorders among Japanese children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(4); 444-452, 1998.

Objective: To generate current data on the prevalence of psychiatric disorders among Japanese children, using DSM-III-R criteria. **Method:** As part of an ongoing longitudinal study in a Japanese community sample, 114 mother-child dyads were interviewed when the children were approximately 8 years old. DSM-III-R disorders of the children were diagnosed through the administration of a structured diagnostic instrument, the parent and child versions of the Child Assessment Schedule to both the children and the mothers. **Results:** The prevalence rate for any diagnosis was 49.1%, which is similar to that of U.S. children and adolescents. **Conclusion:** The Child Assessment Schedule is an appropriate scale for assessing the psychopathology of Japanese children, which is as prevalent as in a U.S. sample.

Kitamura, T., Sugawara, M., Toda, M. A. and Shima, S.: Childhood adversities and depression: I. Effects of early parental loss on the rearing behaviour of the remaining parent. *Archives of Women's Mental Health*, 1; 131-136, 1998.

Although early parental loss and perceived rearing have both been the target of intensive research, they have rarely been linked. This study examined the effects of parental loss on the perceived parenting of the remaining caregiver. The effect of early (before age 16) experience of the father's or mother's death or separation from them for 12 months or longer on the rearing behaviour of the remaining parent was studied retrospectively among 1,329 pregnant women. Women who had experienced either death of or separation from the father reported having received less care from the mother. However, experiences of loss of the mother did not show significant effects on the perceived rearing behaviour of the father. The number of siblings was correlated with reduced paternal and maternal care and with reduced maternal overprotection. Our hypothesis that early parental loss experience would have a negative influence on parental rearing behaviour was proved only for the effects of the paternal loss. Search for other determinants may be warranted.

北村俊則：母子の精神面支援へ向けて—キーノート—. *日本新生児学会雑誌*, 34(4); 759-761, 1998.

Okano, T., Nomura, J., Kaneko, E., Tamaki, R., Murata, M., Koshikawa, N., Kitamura, T., Stein, G. and Kumar, R.: Epidemiological and biological aspects of postpartum psychiatric illness. In (ed. J. Nomura) *Neurobiology of Depression and Related Disorders*. pp 143-161. Mie Academic Press. Tsu, 1998.

菅原ますみ, 北村俊則, 戸田まり, 島悟, 佐藤達哉, 向井隆代: 子どもの問題行動の発達—Externalizing な問題傾向に関する生後 11 年間の縦断研究から. *発達心理学*, 10(1); 32-45, 1999.

児童期の子ども (平均年齢 10.52 歳) の問題行動発生に関わる先行要件について, 対象児童が胎児期より開始された縦断サンプル(約 400 名)を用いて検討をおこなった. 10 歳児の注意欠陥および攻撃的・反抗的な行動傾向 (externalizing な問題行動) の予測因子として, 子ども自身の乳幼児期からの行動特徴, 家庭の社会経済的状況, 親の養育など多くの要因が有意な関連をもっており, 多要因の時系列的な相互作用によって子どもの問題行動が発達していくプロセスが浮かび上がってきた. また発達初期に同じような危険因子を持っていたとしても, 良好な父親の養育態度や母親の父親に対する信頼感などの存在によってこうした問題行動の発現が抑制されることも明らかになった. これらの結果から, 子どもの精神的健康をめぐるサポートのあり方について考察を行った.

Sugawara, M., Kitamura, T., Toda, M. A. and Shima, S.: Longitudinal relationship between maternal depression and infant temperament. *Journal of Clinical Psychology*, 55(7); 869-880, 1999.

To investigate the relationship between maternal depression and infant temperament in a Japanese population, a prospective questionnaire survey was administered in the postpartum period. Postnatal depression was assessed by Zung's (1965) Self-Rating Depression Scale on two occasions (5 days and 12 months after delivery). At 6 months and 18 months after birth, infant temperament was assessed using the Revised Infant Temperament Questionnaire (RITQ; Carey & McDevitt, 1978) and the Toddler Temperament Scale (TTS; Fulward,

McDevitt, & Carey, 1984), respectively. Of the five temperamental dimensions of the RITQ and TTS, “rhythmicity” and “attention span and persistence” showed reciprocal relationships with postnatal depression. Unidirectional effects of maternal depression on infant temperament were found for “frustration tolerance” and “fear of strangers and strange situations.”

Sugawara, M., Sakamoto, S., Kitamura, T., Toda M. A. and Shima, S.: Structure of depressive symptoms in pregnancy and postpartum period. *Journal of Affective Disorders*, 54, 161-169, 1999.

Back ground: The present study investigated the structure of depressive symptoms in the perinatal period. **Method:** the Zung Self Rating Depression Scale (SDS) was administered to a total 1329 women in early, middle and late pregnancy and 5 days, 1 month, 6 month, and 18 month after the delivery. **Results:** A number of somatic items and the suicidal ideation item of the SDS made low contributions to the evaluation of the severity of depression, and as a consequence these were excluded in the principal component analysis. Three factors were interpretable as “Cognitive”, “Affective insomnia”, and “Attentional” emerged at all eight assessment points. The goodness-of-fit index (GFI) generated by confirmatory factor analysis (LISREL) proved sufficiently high on all eight occasions. **Limitation:** The present study investigated only one self-rating scale and the sample comprised Japanese mothers only. **Conclusion:** The three-factor model of the SDS in the perinatal period was derived from exploratory and confirmatory factor analysis. It is noteworthy that the same three-factor structure emerged at all eight collection points in the present study.

Kitamura, T., Sugawara, M., Shima, S. and Toda, M. A.: Temporal variation of validity of self-rating questionnaires: improved validity of repeated use of Zung’s Self-rating Depression Scale among women during perinatal period. *Journal of Psychosomatic Obstetrics and Gynaecology*, 20(2); 112-117, 1999.

It has been reported that Zung’s self-Rating Depression Scale (SDS) loses its validity in predicting cases of depression when used repeatedly. The validity of SDS was tested against the subject’s Research Diagnostic Criteria (RDC) diagnoses of major/minor depressive disorders in 120 pregnant women four times throughout the perinatal period. Different sets of predictive SDS items were found at different time points. We developed an ‘RDC-like’ algorithm time points. Though varying in sensitivity, we found that this formula yielded low, but stable, positive predictive values and constantly high negative predictive values. We suggest that the RDC-like algorithm is a better alternative for screening depression among perinatal women.

Kitamura, T., Sugawara, M., Shima, S. and Toda, M. A.: Childhood adversities and depression: II. Parental loss, rearing, and symptom profile of antenatal depression. *Archives of Women’s Mental Health*, 1; 175-182, 1999.

Among a total of 1,329 pregnant women, neither early loss experience by death or by separation before the age 16 was related to any the three depressive symptom constellations derived from Zung’s Self-rating Depression Scale – Dysphoric Mood, Cognitive Disturbance, and Poor Concentration. Paternal and maternal low care and overprotection scores of the Parental Bonding Instrument, a measure of perceived rearing, had main effects on the Cognitive Disturbance and Poor Concentration scores, with significant interaction of the two predictors; Dysphoric Mood was also linked to maternal overprotection. These findings suggest that perceived parenting is a predictor of two specific symptom constellations of antenatal depression.

Hori, S., Nakano, Y., Furukawa, T., Ogasawara, M., Katano, K., Aoki, K., and Kitamura, T.: Psychosocial factors regulating natural-killer cell activity in recurrent spontaneous abortion. *American Journal of Reproductive Immunology*, 44; 299-302, 2000.

Problem: The pre-conceptual natural killer cell (NK) activity predicts subsequent miscarriage among women with unexplained recurrent spontaneous abortion (RSA). Psycho-neuro-immune-endocrine network has recently been proposed as a mechanism for abortions. We therefore examined which psychosocial factors influenced the NK activity among women with RSA. **Method of Study:** We measured the pre-conceptual NK activity of 61 women with a history two consecutive unexplained first-trimester miscarriages and no live births. We also administered semi-structured interviews and a battery of self-report questionnaires to assess their social support, personality, self-esteem

and psychiatric symptoms. **Results:** The preconceptional NK activity was negatively correlated with the women's neuroticism personality trait ($r = -0.32, p = 0.01$) and current depressive symptoms ($r = -0.26, p = 0.05$), and positively correlated with their self-esteem ($r = 0.34, p = 0.01$). **Conclusions:** In addition to several substances such as transforming-growth-factor beta and granulocyte-macrophage colony-stimulating factor, we found that low neuroticism, low depression scale score and high self-esteem contributed to high NK activity among women with RSA.

岸田泰子, 北村俊則 : うつ病などの精神異常の妊産褥婦に対する周産期の母子保健指導とその援助. 周産期医学, 30(2); 214-217, 2000.

Nakano, Y., Sugiura, M., Aoki, K., Hori, S., Oshima, M., Kitamura, T., and Furukawa, T.: Japanese version of the Quality of Relationship Inventory: Its reliability and validity among women with recurrent spontaneous abortion. *Psychiatry and Clinical Neurosciences*, 56; 527-532, 2002.

Until now most of the research on social support has concentrated on general support in relationship to the whole group of people around each individual. In contrast, only a few studies have dealt with individual-specific support (i.e. social support from a particular individual relationship). The Quality of Relationship Inventory (QRI) is a recently developed questionnaire to measure individual-specific social support. We developed the Japanese version by means of back translation and ascertained its reliability and validity among the Japanese women who had had two recurrent spontaneous abortions without known organic etiologies. Factor analysis revealed that the Japanese QRI had a two-factor structure, representing supportive and conflictual aspects of a particular relationship (named Factor-S and Factor-C, respectively). Each factor showed satisfactory reliability with Cronbach's alphas of 0.95 and 0.89. When the QRI scores were compared with the scales from the Social Support Questionnaire, a measure of general social support, the Factor-C of the former with respect to the mother correlated negatively with the Social Support Satisfaction of the latter ($r = -0.40$; 95% confidence interval (CI) - 0.64 to - 0.09). Childhood experiences with parents also showed expected correlations with the QRI: care received from the parent before age 16 years strongly predicted Factor-S with that parent ($r = 0.50$, 95% CI 0.21-0.71 in the case of the mother; $r = 0.54$, 95% CI 0.27-0.73 in the case of the father). Although we still need to examine the Japanese QRI with different populations, it appears to be a promising measure of individual-specific relationship for the Japanese population.

Sugiura-Ogaswara, M., Furukawa, T. A., Nakano, Y., Hori, S., Aoki, K. and Kitamura, T.: Depression as a potential causal factor in subsequent miscarriage in recurrent spontaneous aborters. *Human Reproduction*, 17; 2580-2584, 2002

Background: Unexplained miscarriage is speculated to be due to a Th1/Th2 cytokine imbalance at feto-maternal interface and immunological functions are known to be under the influence of various psychological factors. Indeed, the psycho-neuro-endocrine network has been proposed to contribute to miscarriage. To assess whether psychological disorders might induce spontaneous abortion we carried out a prospective study to determine if any psychological parameter influenced risk in those patients with a history of recurrent miscarriages.

Methods: A prospective study was carried out on 61 patients with a history of two consecutive first-trimester miscarriages. A battery of self-report questionnaires including Symptom Checklist-90 Revised and the NEO Five factor Index and semi-structured interviews were conducted before a subsequent pregnancy. We investigated whether or not these parameters predicted subsequent miscarriages. **Results:** Ten (22.2%) of the 45 patients who conceived miscarried again. Baseline depressive symptoms influenced subsequent miscarriage ($p = 0.004$). This statistically significant effect remained when we corrected with Bonferroni adjustment ($p = 0.036$). **Conclusion:** A high depression scale is associated with a high miscarriage rate in those patients suffering recurrent miscarriage.

Ito, T., Tomita, T., Hasui, C., Otsuka, A., Katayama, Y., Kawamura, Y., Muraoka, M., Miwa, M., Sakamoto, S., Agari, I. and Kitamura, T.: The link between response styles and major depression and anxiety disorders after child-loss. *Comprehensive Psychiatry*, 44(5): 396-403, 2003.

Although several studies have indicated that persons with a high ruminative coping style experience higher depression after a loss of a loved

one, the relationship between ruminative coping and the occurrence of clinical depression and anxiety disorders after a loss has not been thoroughly investigated. This study investigated the relationship between response styles (ruminative coping v. distractive coping) and the onset of major depression and anxiety disorders in a sample of parents who had experienced sudden child-loss (N = 106). The incidence of major depression after the loss of a child was very high (69%). After controlling for demographic variables and psychiatric history, ruminative coping was significantly associated with the onset of major depression, as defined by DSM-IV, but not with the onset of anxiety disorders. Thus ruminative coping after the loss of a child appears to be a risk factor specifically for major depression.

Nakano, Y., Oshima, M., Sugiura-Ogasawara, M., Aoki, K., Kitamura, T. and Furukawa, T. A.: Psychosocial predictors of successful delivery after unexplained recurrent spontaneous abortion: a cohort study. *Acta Psychiatrica Scandinavica*, 109; 440-446, 2004.

Objective: To examine psychosocial predictors of successful pregnancy after recurrent spontaneous abortions (RSA). **Method:** We administered two waves of semi-structured interview and self-report questionnaire battery to a consecutive series of 46 couples who had had two RSA's (baseline before third pregnancy, and immediately after third pregnancy was ascertained), and followed them through their third pregnancy. **Results:** Of the 46 couples, 6 miscarried for karyotypal abnormalities and six without any known cause. When the latter six were compared with the remaining 36 women, they reported less social support satisfaction, a more stable attribution for the causes of past abortions, and more depressed mood in the preceding year. Taken altogether this psychosocial model was able to predict 93% of the pregnancy outcome correctly. **Conclusion:** Psychosocial variables (depression, attribution and social support) are robust predictors of the prospective pregnancy and suggest possible points of intervention in couples with RSA.

Kitamura, T., Yoshida, K., Okano, T., Kinoshita, K., Hayashi, M., Toyoda, N., Ito, M., Kudo, N., Tada, K., Kanazawa, K., Sakumoto, K., Satoh, S., Furukawa, T. and Nakano, H.: Multicentre prospective study of perinatal depression in Japan: Incidence and correlates. *Archives of Women's Mental Health*, 9(3): 121-130, 2006.

A multicentre study on the epidemiology of perinatal depression was conducted among Japanese women expecting the first baby (N = 290). The incidence rate of the onset of the DSM-III-R Major Depressive Episode during pregnancy (the antenatal depression) and within 3 months after delivery (the postnatal depression) were 5.6% and 5.0%, respectively. The women of the antenatal depression were characterised by young age, and own negative attitude towards the current pregnancy whereas the women of the postnatal depression were characterised by poor accommodation, dissatisfaction with sex of the newborn baby, and dissatisfaction with the emotional undermining. The experience of the antenatal depression was a risk factor of the postnatal depression.

Yamashita, H., Ariyoshi, A., Uchida, H., Tanishima, H., Kitamura, T. and Nakano, H.: Japanese midwives as psychiatric diagnosticians: Application of criteria of DSM-IV mood and anxiety disorders to case vignettes. *Psychiatry and Clinical Neurosciences*, 61, 226-233, 2007.

It is believed in Japan that only psychiatrists are capable of providing reliable psychiatric diagnosis. However, more awareness of mental health issues related to perinatal care means that midwives are now required to have psychiatric diagnostic skills. We examined how well Japanese midwives agreed with a psychiatrist on diagnoses of different psychiatric disorders. Vignettes of 29 cases including DSM-IV mood disorders (Major Depressive Disorder and Bipolar Disorder) and anxiety disorders (Generalized Anxiety Disorder, Panic Disorder, Phobic Disorders, and Obsessive-Compulsive Disorder) were distributed to twelve Japanese midwives. They decided the DSM-IV diagnoses independently and compared them with those made by an expert. The kappa coefficients of the diagnoses with a base rate of 0.1 or more were moderate to almost perfect (0.64 to 0.83). The accuracy of symptom assessment was also satisfactory. Appropriately trained Japanese midwives can use the diagnostic criteria for psychiatric disorders reliably. It is therefore feasible to dispatch midwives who are trained in psychiatric diagnosis to antenatal clinics.

Kitamura, T., Yamashita, H., and Yoshida, K.: Seeking medical support for depression after the

childbirth: A Study of Japanese community mothers of 3-month-old babies. *Open Women's Health Journal*, 3: 1-14, 2009.

Mothers of 3-month-old babies (N = 1,298) were investigated, about 5% of whom reported depression. Of the women with depression, 7% visited a medical institution for their condition. The mothers with depression who did not seek medical support scored significantly higher in bonding failure than those who did so. Less frequent spontaneous medical support seeking among mothers with both depression and bonding failure underscores the importance of assertive (outreach) community mental health care for postnatal women.

Kitamura, T., Shikai, N., Uji, M., Hiramura, H., Tanaka, N., and Shono, S.: Intergenerational transmission of parenting style and personality: Direct influence or mediation? *Journal of Child and Family Studies*, 18; 541-556, 2009.

In order to examine the relationships between parenting styles and personality traits over generations, a cross-sectional questionnaire study was conducted for fathers and mothers of school-age children of grades 5-9. The parenting styles measured by the Parental Bonding Instrument (PBI) and the personality traits measured by the Temperament and Character Inventory (TCI) were correlated within and between the consecutive generations (the grandparents and the parents for the PBI and the parents and the children for the TCI). A series of structural equation modeling showed that (1) while the parenting styles were transmitted directly from the grandparents to the parents, it was partly mediated by the fathers' Co-operativeness (C) but not so for the mothers, (2) while the personality traits were transmitted directly from the parents to the children, it was only the fathers' parenting styles that mediated C, and (3) the parents' parenting styles had independent effects upon the children's personality traits.

Tanaka, M., Kitamura, T., Chen, Z., Murakami, M., and Goto, Y.: Do parents rear their children as they were reared themselves? Intergenerational transmission of parental styles (warmth and control) and possible mediation by personality traits. *Open Family Studies Journal*, 2; 82-90, 2009.

In order to examine the intergenerational transmission of reported parenting styles (warmth and control) and their mediation by personality traits, a cross-sectional questionnaire study was conducted of 396 fathers and 733 mothers of children from less than 1 to 10 years of age. The participants used the Parental Bonding Instrument (PBI) to measure their own and their partner's current rearing styles as well as to assess their perception of the parenting they had received before age 16. Parents' personality traits were measured using the Temperament and Character Inventory (TCI). In both fathers and mothers, the correlation of the grandparents' perceived parenting styles were correlated with the current parenting styles reported by parents themselves greater than with the current parenting styles reported by spouse. Thus, we speculated the shared observer bias and used the spouse-report for further analyses. In the fathers, (1) paternal Care was correlated with the grandmothers' Care and grandparents' low Overprotection; and paternal Overprotection was correlated with the grandfathers' Overprotection; (2) Novelty Seeking was correlated with the grandparents' Overprotection and low Care; Harm Avoidance was correlated with the grandparents' Overprotection; Reward Dependence, Self-directedness, and Co-operativeness were correlated with the grandparents' Care and low Overprotection; and Persistence was correlated with the grandparents' Care; (3) Overprotection was correlated with Harm Avoidance and low Self-directedness. In the mothers, (1) maternal Care was correlated with the grandmothers' Care; (2) Novelty Seeking was correlated with the grandmothers' low Care; Harm Avoidance was correlated with the grandfathers' low Care and the grandparents' Overprotection; Reward Dependence, Self-directedness, and Co-operativeness were correlated with the grandparents' Care and low Overprotection; and Self-transcendence was correlated with the grandfathers' Care; (3) maternal Care was correlated with Reward Dependence, Persistence, and Co-operativeness; and maternal Overprotection was correlated with low Self-directedness. The transmission of Overprotection of fathers and Care of mothers from the grandparent generations was found to be mediated by personality traits.

Hiramura, H., Uji, M., Shikai, N., Chen, Z., Matsuoka, N. and Kitamura, T.: Understanding externalizing behavior from children's temperament and parental rearing. *Psychiatry Research*, 175; 142-147, 2010.

A total of 946 Japanese children in the 5th to 9th grades and their parents were studied in order to investigate the extent to which parenting characteristics (measured by the Parental Bonding Instrument) and the personality of the child (measured by the junior version of the Temperament and Character Inventory) would be associated with the two aspects of the externalizing problems — aggression and delinquency — of the child (measured by the Child Behavior Checklist). A series of regression analyses demonstrated that (1) aggressive children were higher in Novelty Seeking, and delinquent children were higher in Novelty Seeking and lower in Harm Avoidance, and (2) both aggressive and delinquent children were characterised by low maternal care, paternal over-protection, and low maternal overprotection. A structural equation model confirmed these findings except for the link between the two externalising behaviour scores and the maternal care. Moreover, it was suggested that Novelty seeking of the child would be predicted by low parental care and low paternal and high maternal over-protection. The children's aggression and delinquency could, to some extent, be explainable by their temperament patterns and parental characteristics.

Takeuchi, M. S., Miyaoka, H., Tomoda, A., Suzuki, M., Liu, Q., and Kitamura, T.: The effect of interpersonal touch during childhood on adult attachment and depression: A neglected area of family and developmental psychology? *Journal of Child and Family Studies*, 19; 109-117, 2010.

Interpersonal touch has been little studied empirically as an indicator of parent- and peer-child intimacy. Undergraduate students (n = 390) were studied using a questionnaire survey regarding the frequencies of interpersonal touch by father, mother, same-sex peers, and opposite-sex peers during preschool ages, grades 1–3, grades 4–6, and grades 7–9, as well as their current attachment style to a romantic partner and current depression. A path model indicated that current depression was influenced significantly by poorer self- and other-images as well as by fewer parental interpersonal touches throughout childhood. Other-image was influenced by early (up to grade 3) parental interpersonal touch. Our findings suggest that a lower frequency of parental touching during childhood influences the development of depression and contributes to a poorer image of an individual's romantic partner during later adolescence and early adulthood.

Igarashi, H., Hasui, C., Uji, M., Shono, M., Nagata, T., and Kitamura, T.: Effects of child abuse history on borderline personality traits, negative life events, and depression: A study among a university student population in Japan. *Psychiatry Research*, 180; 120-152, 2010.

To simultaneously examine the impact of childhood abuse history on borderline personality traits, negative life events, and depression, undergraduate students (N=243) were studied by questionnaire surveys with one week intervals. Neglect and emotional abuse as well as sexual maltreatment predicted borderline personality traits and baseline depression. Baseline depression as well as the impact of negative life events occurring the week prior predicted depression a week later. However, after considering the baseline depression level, child abuse history failed to predict the follow-up depression level. Borderline personality traits did not moderate these findings. Childhood emotional and sexual abuse history may influence depression and borderline personality traits.

Takeuchi, M. S., Miyaoka, H., Suzuki, M., Tomoda, Yokoo, A. I., Tsutsumida, R., and Kitamura, T.: The relationship of temperament and character dimensions to perceived parenting styles in childhood: A study of a Japanese university student population. *Open Family Studies Journal*, 4; 9-14, 2011.

To examine the association between perceived parenting styles in childhood and temperament and character dimensions in adolescence and early adulthood, 836 college students in Japan were assessed using the Temperament and Character Inventory (TCI) and the Parental Bonding Questionnaire (PBI). A path analysis revealed that Novelty Seeking and Harm Avoidance were associated with low Self-Directedness and low Cooperativeness; Novelty Seeking, Reward Dependence, and Persistence were associated with Self-Transcendence; and Reward Dependence was associated with Cooperativeness. It also showed that Perceived Parenting (parents' high Care and low Overprotection) was associated with low Harm Avoidance and high Persistence, and was directly associated with

Self-Directedness, Cooperativeness, and low Self-Transcendence. These findings suggest that perceived parenting styles are more associated with character dimensions than temperament dimensions. This link was direct or indirect *via* temperament dimensions.

Suzuki, H., and Kitamura, T.: The parental bonding instrument: A four-factor structure model in a Japanese college sample, *Open Family Studies Journal*, 4; 89-94, 2011.

The Parenting Bonding Instrument (PBI) is a widely used battery to assess parenting behaviours. Although, it was originally developed to measure two attributes of parenting behaviour, care and overprotection, there is still disagreement about the factor structure of the scale. The aim of the present study is to examine the fit of different factorial structures of the PBI in a Japanese college sample. A total of 4,357 Japanese college students (1392 male and 2965 female) participated in the study. The age range was 17-40 years old with the mean age of 20.29 (SD = 1.85). Based on the previous research, five different models of factor structures were identified, and confirmatory factor analyses using AMOS were performed to evaluate the fit of each factorial structure model. A four-factor model (care, indifference, overprotection, and encouragement of autonomy) yielded the best fit among the five models. It was found that the original two-factor model did not reach the acceptable fit. Although the original scoring instruction indicates the four subscales be treated as two sets of bipolar factors (care-indifference, overprotection-autonomy), the present study suggests that four subscales be treated as independent factors when parenting behaviours are assessed in a Japanese population.

Kitamura, T., and Tanaka, N.: Contribution of perceived rearing to depression: The role of cognitive patterns as a mediator. *Open Psychology Journal*, 5; 38-43, 2012.

To test possible mediation of the effects of the perceived parenting in childhood on depression, university students (N = 258) were examined using a cross-sectional questionnaire survey. A path model indicated that (1) the effects of dysfunctional attitude (rated by the Dysfunctional Attitude Scale) on depression (rated by the Center for Epidemiologic Studies Depression Scale) was mediated by automatic thoughts (rated by the Automatic Thought Questionnaire-Revised), (2) the effects of perceived rearing on depression were mediated by dysfunctional attitudes and automatic thoughts, and (3) perceived rearing was influenced by the gender of the student. These findings suggest that the well-studied link between childhood experiences and adult depression are mediated by depression-related cognitive styles.

Kitamura, T., Ohashi, Y., Kita, S., Haruna, M., and Kubo., R.: Depressive mood, bonding failure, and abusive parenting among mothers with three-month-old babies in a Japanese community. *Open Journal of Psychiatry*, 3; 1-7, 2013. [BONDING DISORDERS]

Objective: To investigate the relationships between depressive mood, bonding failure, and abusive parenting. Method: We distributed questionnaires to 1198 mothers attending a three-month postnatal health check-up in rural areas in Japan. The questionnaires assessed these three variables along with demographics. We evaluated the causal relationships by comparing different structural equation models to the data. Results: Although all the models fit the data well, the best Akaike Information Criterion was obtained from a model where both depressive mood and bonding failure predict abusive parenting, but depressive mood and bonding failure do not predict each other directly. The determinant coefficient of child abuse in the final model was 0.13. Discussion: We found depressive mood and bonding failure during postpartum period impacted negatively on mother's parenting behaviour. Because only 13% of the variance of abusive parenting was explainable by this model, further study should be needed to identify other risk factors of child abuse. Similarly, midwives and public health nurse in community should pay attention to not only depression but also bonding failure to prevent child abuse.

Minatani, M., Kita, S., Ohashi, Y., Kitamura, T., Haruna, H., Sakanashi, K., and Tanaka, T.: Temperament, character, and depressive symptoms during pregnancy: A study of a Japanese population. *Depression Research and Treatment*, 2013; Article ID 140169, 2013.

Background. To examine the effects of temperament and character domains on depression during pregnancy. *Methods.* We examined 601 pregnant women using a questionnaire that included the Edinburgh Postnatal Depression Scale (EPDS), the Temperament and Character Inventory (TCI), and demographic variables. *Results.* In a hierarchical regression analysis, severity of depression during pregnancy was predicted by the women's negative response towards the current pregnancy, low self-directedness, and high harm avoidance, persistence, and self-transcendence. *Conclusion.* Depression during pregnancy is predicted by personality traits as well as women's negative attitudes towards the current pregnancy.

Kitamura, T., Ohashi, Y., Murakami, M., and Goto, Y.: Anger and perceived parenting: A study of a Japanese population. *Psychology and Behavioral Sciences*, 2(6); 217-222, 2013.

To assess the effects of perceived rearing during childhood on adult trait anger and anger expression, we evaluated parents of young children attending paediatric clinics (N = 1118). Participants rated their trait anger level and anger expression styles using the State-Trait Anger Expression Inventory and also rated the rearing patterns of their parents during childhood using the Parental Bonding Instrument. A structural equation model suggested that (1) Anger In and Anger Out were predicted by Trait Anger, while Anger Control was predicted by low Trait Anger; (2) Trait Anger was predicted by the affectionless control rearing style of participants' fathers during childhood, but not by their mothers' rearing styles; and (3) none of the anger expression scores were predicted directly by the perceived rearing of the participants' parents. Results did not differ between male and female participants. Adult trait anger may be explained by people's perception of their rearing during childhood.

Uji, M., Sakamoto, A., Adachi, K., and Kitamura, T.: The impact of authoritative, authoritarian, and permissive parenting styles on children's later mental health in Japan: Focusing on parent and child gender. *Journal of Child and Family Studies*, 23; 293-32, 2014.

Few studies in Japan have examined whether children's later mental health is influenced by the way parental authority is exercised, specifically with a focus on gender. Our main purposes of this study were to confirm the three-factor structure of the Japanese version of the Parental Authority Questionnaire (PAQ) and to verify its reliability and validity. We then used structural equation modeling to examine whether children's later mental health was influenced by parents' authoritative, permissive, and authoritarian parenting. The subcategories included in the Japanese version of the Clinical Outcomes in Routine Evaluation-Outcome Measure were chosen as mental health indices. A total of 1,320 people in Japan, including company employees, university students, and hospital staff members, were asked to recall and evaluate the parenting they received and to report on their current mental health. Confirmatory factor analyses verified the three-factor structure of the Japanese version of the PAQ, with a reduction in the number of items from the original version. The respondents, regardless of gender, evaluated their mothers as having been more authoritative than their fathers. Concerning the impact of parenting styles on respondents' later mental health, both maternal and paternal authoritarian parenting styles worsened respondents' later mental health, including symptomatic problems, risk to self and others, life functioning, and psychological wellbeing. Both maternal and paternal authoritative parenting had a beneficial impact on respondents' later mental health. Simultaneous analyses of multi-groups demonstrated that the nature of these influences did not vary with respondent gender. We present the above results in detail, and discuss them from psycho-socio-cultural viewpoints.

Takegata, M., Kitamura, T., Haruna, M., Sakanashi, K., and Tanaka, T.: Childbirth as a trauma: Psychometric properties of the impact event scale in Japanese mothers of neonates. *Psychology and Behavioral Sciences*, 3(2). 46-50, 2014.

Introduction: The purpose of this study was to evaluate the psychometric properties of the Impact of Event Scale

(IES) among Japanese women after childbirth. *Methods:* Self-reported questionnaires were distributed to pregnant women in Kumamoto prefecture consecutively on three occasions: late pregnancy (N = 642) and five days (N = 416) and one month (N = 226) after delivery. *Results:* An exploratory factor analysis of the IES items at day 5 after childbirth yielded a two-factor structure (Intrusion and Avoidance) that was cross-validated by a confirmatory factor analysis. The IES subscale scores were correlated with other psychological measures rated at the same time, including postpartum depressive symptoms assessed with the Edinburgh Postnatal Depression Scale (EPDS) and perceived difficulty of childbirth experience. The Cronbach's alpha coefficients were .83 for Intrusion and .86 for Avoidance. Test-retest reliability between day 5 and one month after childbirth was .74 for Intrusion and .71 for Avoidance. *Discussion:* The results provide support for the IES as a valid and reliable measure of postnatal traumatic symptoms among Japanese women.

Kitamura, T., Ohashi, Y., Minatani, M., Haruna, M., Murakami, M., and Goto, Y.: Emotionality Activity Sociability and Impulsivity (EASI) Survey: Psychometric properties and assessment biases of the Japanese version, *Psychology and Behavioral Sciences*, 3(4); 113-120, 2014.

Background: The EASI Survey, a 20-item parent report, was one of the first instruments developed to measure children's temperament. *Methods:* We performed an exploratory factor analysis (EFA) of the EASI items in a randomly halved population of Japanese fathers (n = 237) and mothers (n = 412) of children under four years of age. The factor structure was cross-validated by a confirmatory factor analysis (CFA). Then, parents' assessments of each temperament were regressed on the other parents' assessments and then on a variety of intrapersonal and interpersonal variables related to the assessor parents. *Results:* An EFA yielded a two-factor structure but a four-factor structure according to the original report showed better fit with the data. The new four-factor model (excluding items with low factor loadings) showed in a CFA acceptable goodness-of-fit with the data. These four subscales showed moderate internal consistency. Parental assessment of the EASI subscales was explainable by the assessment rated by the other parent. After controlling it, parents with depression, anger, and less caring attitudes were more likely to rate their child's Emotionality and Impulsivity higher than their partners. *Conclusions:* The EASI Survey may be applicable to a Japanese non-clinical child population.

Ohashi, Y., Kitamura, T., Kita, S., Haruna, M., Sakanashi, K., and Tanaka, T.: Mothers' bonding attitudes towards infants: Impact of demographics, psychological attributes, and satisfaction with usual clinical care during pregnancy. *International Journal of Nursing and Health Science*, 1(3), 16-21, 2014. [BONDING DISORDERS]

Our aim was to examine the hypothesis that bonding difficulty after childbirth is predicted by poor satisfaction with hospital care as well as women's demographic, obstetric, and personality attributes. We investigated 413 women using a set of questionnaires that included the Postnatal Bonding Questionnaire (PBQ), Temperament and Character Inventory (TCI), and Client Satisfaction Questionnaire (CSQ), as well as demographic variables. Regression analyses that sequentially set each of the three PBQ subscales as the dependant variable showed that all three PBQ subscales were predicted by the women's negative responses to their pregnancies as well as several personality traits. In addition, the Anger and Rejection domain of the PBQ could be explained by perceived satisfaction with usual care, even after controlling for the effects of demographic, obstetric, and personality factors. We should pay more attention to improving medical and nursing care as this has considerable potential to enhance mothers' attitudes towards their babies.

Kitamura, T. and Nagata, T.: Suicidal ideation among Japanese undergraduate students: Relationships with borderline personality trait, depressive mood, and childhood abuse experiences. *American Journal of Psychology and Behavioral Sciences*, 1(2); 7-13, 2014.

Although previous studies repeatedly noted that childhood abuse experiences and borderline personality traits, and depressive mood would influence suicidal ideation, few studies have attempted to reveal the independent contributory role of each factor to suicidal ideation. A multi-wave questionnaire survey among approximately 500 Japanese college students. Using structural equation modeling, we found childhood abuse experiences assessed by the Child Abuse and Trauma Scale had statistically significant impact on suicidal ideation through borderline personality characteristics assessed by the Inventory of Personality Organization, and depressive mood assessed by the Self-rating Depression Scale as mediators. The effects of childhood abuse experiences on trait suicidal ideation (persistent suicidal ideation) may be mediated by borderline personality traits and depressive mood. Future public health efforts should address suicide in the framework of personality characteristics.

Kitamura, T., Ohashi, Y., Murakami, M., and Goto, Y.: The mediation of parental personality on pre-school children's temperament by parenting styles. *American Journal of Psychology and Behavioral Sciences*, 1(3); 21-28, 2014.

In order to examine the effects of parental personality on children's (under age 4) temperament as well as the mediation of these effects by parenting styles, fathers and mothers who attended paediatric clinics in Kumamoto, Japan, with their child were distributed a set of questionnaires. Parental personality as measured by the Temperament and Character Inventory predicted the children's temperament, which was assessed using the EASI Survey. Many of the associations between the two were found to be mediated by the parenting styles measured using the Parental Bonding Instrument, while some held direct association. Such interactions between parental personality, children's temperament, and parenting styles may be specific to parental gender.

Kitamura, T., & Fujihara, S.: Effect of peer victimisation on adult onset of depression. *American Journal of Psychology and Behavioral Sciences*, 1(3); 29-34, 2014.

A previous data set was reanalysed to investigate the relationships of peer victimisation and other early life events with adult onset of depression. A total of 220 community residents were interviewed to establish lifetime DSM-III-R diagnosis of Major Depressive Episode (MDE) and the incidence of various childhood life events, including peer victimisation and child abuse. The Eysenck Personality Questionnaire (EPQ) and the Parental Bonding Instrument (PBI) were also employed. Participants with a lifetime history of DSM-III-R MDE reported a greater number of experiences of being bullied and of suffering fracture or injury than those without it. However, the association of peer victimisation with adult onset of MDE lost statistical significance if confounding with paternal abuse was taken into account. Neuroticism score on the EPQ indicated that this personality trait did not serve as a mediator of the association between peer victimisation and adult onset of MDE.

Kitamura, T., Uji, M., Chen, Z., Murakami, M., and Goto, Y.: Determinants of parenting styles of Japanese fathers and mothers with children aged 0 to 10: Perceived parenting during childhood or dysphoric mood? *Open Family Studies Journal*, 6, 8-16, 2014. [BONDING DISORDERS]

Purpose: To study the determinants of current parenting styles in Japan. *Methods:* Fathers (n = 312) and mothers (n = 333) of children aged between 0 and 10 attending a paediatric clinic were evaluated with regards to the following: parental attitudes rated by spouses using the Parental Bonding Instrument, current dysphoric mood assessed with the Hospital Anxiety and Depression Scale, life time history of Major Depressive Episode (MDE), and perceived parenting styles when the parents themselves were children. *Results:* Path models showed that current parenting styles were predicted by parents perception of maternal rearing during childhood. Moreover, in mothers only, they were predicted by the manner in which the women were raised by their fathers. This prediction was indirect, occurring via lifetime history of MDE and current dysphoric mood. *Conclusion:* This study suggests that the way in which parents

themselves were raised was no less important than how they currently felt in determining how they were raising their child. Current dysphoric mood or lifetime history of MDE mediated such effects only among mothers.

Takegata, M., Ohashi, Y., Haruna, M., and Kitamura, T.: Theoretical framework for interpersonal psychotherapy in the prevention of postpartum depression: A commentary. *International Journal of Nursing and Health Science*, 1(6); 37-40, 2014.

Postpartum depression occurs in around 10 % of women in several countries. Among preventive interventions during pregnancy, interpersonal psychotherapy (IPT) is identified to be effective. However, little theoretical explanations for this effect have been proposed. Since the perinatal period is a time that interpersonal conflicts are more likely to occur in a woman's life, IPT may be effective to help women and their significant others achieve a new role and adapt to role conflict. The present commentary discusses the issue from the self-efficacy theory.

Kitamura, T., Takegata, M., Haruna, M., Yoshida, Y., Yamashita, H., Murakami, M., and Goto, Y.: The Mother-Infant Bonding Scale: Factor structure and psychosocial correlates of parental bonding disorders in Japan. *Journal of Child and Family Studies*, 24, 393-401, 2015. [BONDING DISORDERS]

Bonding disorders towards their child has been recognized as a serious problem, which might lead to give adverse effects on the relationship with child or maltreatment towards their child. The aim of this study was to identify the factor structure of the Mother-Infant Bonding Scale (MIBS) as well as the determinants of parental bonding disorders in Japan. In this cross-sectional observational study, the MIBS and other psychosocial questionnaires were distributed to 396 fathers and 733 mothers of children aged between 0 and 10, at 20 clinics of Kumamoto prefecture, in Japan. An exploratory factor analysis of the MIBS revealed a two-factor structure: lack of affection (LA) and anger and rejection (AR). A confirmatory factor analysis demonstrated its cross-validity, with no statistical differences between fathers and mothers. A multi-group analysis using structural equation modelling demonstrated that LA and AR were predicted by parental dysphoric mood while only AR was predicted by parental anger. To be concluded, the current study suggests that the MIBS has two subscales that can be predicted by intrapersonal and interpersonal variables, and may provide information applicable to the design of therapeutic or preventive approaches to parents with bonding disorders.

Ohashi, Y., Takegata, M., Haruna, M., Kitamura, T., Takauma, F., and Tada, K.: Association of specific negative life events with depression severity one month after childbirth in community-dwelling mothers, *International Journal of Nursing and Health Science*, 2(2); 13-20, 2015.

Background: Although there is a consensus view that stressful life events *in general* are associated with the onset of depression, it is still unclear whether specific events are linked to depression at a particular life stage. The purpose of this study was to identify hassle events specifically related to postpartum depression. *Method:* In a two-wave study (Wave 1 was at 5 days and Wave 2 was at 1 month after childbirth) we used the Maternity Blues Questionnaire (MBQ) and the Edinburgh Postnatal Depression Scale (EPDS) and asked participants whether they had experienced each of 41 daily negative life events (NLEs) in different domains since childbirth. The 758 women who returned the questionnaires at both 5 days and 1 month after childbirth were studied. *Results:* After controlling for the effects of the MBQ scores and the participants' and partners' ages, the Wave 2 EPDS score correlated with 3 (23%) items in the Physical Symptoms and Body Image domain, 3 (30%) items in the Lifestyle Changes and Financial Problems domain, 3 (30%) items in the Interpersonal Relationships and Out-of-Home Activities domain, and 6 (75%) items in the Parenting and Newborn Behaviours domain. The Wave 2 EPDS scores were linked significantly with most infant- and parenting-related items, and moderately with interpersonal items. *Conclusion:* Women caring for infants are more vulnerable to NLEs related to infant care and interpersonal relationships than to those related to physical conditions. Clinicians should

pay more attention to events related to infant care during the postpartum period.

Takegata, M., Haruna, M., and Kitamura, T.: Continuous education for perinatal mental health among clinical midwives: Necessity and a literature review. *International Journal of Nursing and Health Science*, 2(6); 73-77, 2015.

During perinatal period, a variety of mental disorders are often seen among pregnant and child rearing women; psychosis, depression, anxiety disorders including tokophobia (fear of childbirth), panic disorders, and traumatic symptoms due to childbirth. Due to the negative impact on mother's well-being, childrearing, and family relationships, midwives should obtain sufficient knowledge and skills for detecting women with either of these mental disorders and their family and providing proper care. However, education of mental health care for mothers with psychiatric disorders may not be sufficient in the current curriculum of midwifery. Therefore, continuous training for the mental disorders, is essential for improving the quality of midwifery care. This literature review describes clinical symptoms, related factors, pharmacological and non-pharmacological treatments of the mental disorders, suggesting clinical implication for midwives.

Kitamura, T., Ohashi, Y., Minatani, M., Haruna, M., Murakami, M., & Goto, Y.: Disagreement between parents on assessment of child temperament traits. *Pediatrics International*, 57; 1090-1096, 2016.

Background: Accuracy of temperament assessment is a prerequisite in research studies. To identify the extent to which parental assessment of child temperament is biased by their personal attributes, we proposed a new structural equation model, in which biases of parental attributes in their assessment of child temperament can be separated from the true (i.e. non-biased) associations between the two. Methods: We examined 234 father–mother pairs using questionnaires including Emotionality, Activity, Sociability, and Impulsivity; Social Desirability Scale; Hospital Anxiety and Depression Scale; Temperament and Character Inventory; and State–Trait Anger Expression Inventory. Results: Paternal Depression and Persistence, maternal Trait Anger, and parental Novelty Seeking showed significant bias in assessment of Emotionality. Maternal Self-transcendence showed significant bias in assessment of child Impulsivity. Conclusion: Researchers should be cautious about biases in parental assessment of children's Emotionality and Impulsivity, but other temperament traits may be free from such biases.

Ohashi, Y., Kitamura, T., Sakanashi, K., and Tanaka, T.: Postpartum bonding disorder: Factor structure, validity, reliability and a model comparison of the Postnatal Bonding Questionnaire. *Healthcare*, 4; 50, 2016. [BONDING DISORDERS]

Negative attitudes of mothers towards their infant is conceptualized as postpartum bonding disorder, which leads to serious health problems in perinatal health care. However, its measurement still remains to be standardized. Our aim was to examine and confirm the psychometric properties of the Postnatal Bonding Questionnaire (PBQ) in Japanese mothers. We distributed a set of questionnaires to community mothers and studied 392 mothers who returned the questionnaires at 1 month after childbirth. Our model was compared with three other models derived from previous studies. In a randomly halved sample, an exploratory factor analysis yielded a three-factor structure: Anger and Restrictedness, Lack of Affection, and Rejection and Fear. This factor structure was cross-validated by a confirmatory factor analysis using the other halved sample. The three subscales showed satisfactory internal consistency. The three PBQ subscale scores were correlated with depression and psychological abuse scores. Their test–retest reliability between day 5 and 1 month after childbirth was measured by intraclass correlation coefficients between 0.76 and 0.83. The Akaike Information Criteria of our model was better than the original four-factor model of Brockington. The present study indicates that the PBQ is a reliable and valid measure of bonding difficulties of Japanese mothers with neonates.

Ohashi, Y., Sakanashi, K., Tanaka, T., and Kitamura, T.: Mother-to-infant bonding disorder, but not depression, 5 days after delivery is a risk factor for neonatal emotional abuse: A study in Japanese mothers of 1-month olds. *Open Family Studies Journal*, 8; 27-36, 2016. [BONDING DISORDERS]

Background: Despite its clinical and public policy-making importance, neonatal abuse has been only minimally studied. **Purpose:** To identify predictors of mothers' emotional abuse towards their infants at 1 month after childbirth. **Methods:** We studied a cohort of 252 women at three time points: late pregnancy and 5 days and 1 month after childbirth. At each time point, the women were administered a set of questionnaires about their depression (Edinburgh Postnatal Depression Scale), bonding towards the foetus or neonate (Maternal Antenatal Attachment Scale and Postnatal Bonding Questionnaire, respectively), and, at 1 month after childbirth, emotional abuse (Conflict Tactic Scale). **Results:** Structural equation modeling (SEM) analysis revealed that neonatal emotional abuse was predicted by bonding difficulties at 5 days after childbirth but not by depression at that time point. **Conclusion:** Assessment for maternal bonding problems in the early post-natal period should be routinely performed by perinatal health professionals.

Baba, K., Takauma, F., Tada, K., Tanaka, T., Sakanashi, K., Kataoka, Y., and Kitamura, T: Factor Structure of the Conflict Tactics Scale. *International Journal of Community Based Nursing and Midwifery*, 5(3); 239-247, 2017. [BONDING DISORDERS]

Matsunaga, A., Takauma, F., Tada, K., and Kitamura, T.: Discrete category of mother-to-infant bonding disorder and its identification by the Mother-to-Infant Bonding Scale: A study in Japanese mothers of a 1-month-old. *Early Human Development*. 111; 1-5, 2017. [BONDING DISORDERS]

Background: Difficulty of maternal bonding towards a baby is widely recognised. It is unclear whether this phenomenon is dimensional or categorical. If categorical, an optimal cut-off score of a screening instrument is needed in clinical settings. Aims: In this study, we investigated whether maternal bonding is dimensional or categorical phenomenon and try to set optimal cut-off score of screening instruments. Methods: Self-report questionnaire studies were conducted in a general hospital and four antenatal clinics. Twostep cluster analysis was conducted for the Mother-to-Infant Bonding Scale (MIBS) subscale scores in 723 mothers of neonates. ROC curves and optimal cut-off points of the MIBS scores were calculated based on clusteranalysis derived groups. Results: A 2-cluster structure appeared: "normal" (n =619) vs. "pathological maternal bonding" (n =104). Mothers of the latter category scored significantly higher in terms of postnatal depression and neonatal abuse than those of the former category. AUC of the ROC curve by the total MIBS scores both 5 days and 1 month after childbirth were > 0.9. The optimal cut off scores were 3/4 at 5 days, and 4/5 at 1 month, after childbirth. Conclusions: There was a group of mothers with high MIBS scores discretely different from those with low MIBS scores. MIBS may be a useful tool to identify mothers with a severe bonding disorder that needs clinical intervention.

Shinohara, E., Yoshida, K., Sakumoto, K., Tada, K., sato, S., Kitamura, T., & Takeda, S.: Effects of partners' attitudes towards wife's aspirations on depression after childbirth. *Open Journal of Depression*, 6; 79-88, 2017. [BONDING DISORDERS]

A lack of social support for pregnant women is associated with depression after childbirth. However, few studies have examined the impact of the partners' understanding of and support for the women's aspirations (personal goals in life) on the severity of depression after childbirth. To examine the relationship between a partner's attitude to his wife's aspirations and depression after childbirth, a longitudinal study was conducted of 290 primipara women from five university hospitals between October 1997 and March 2000. Three questionnaires were administered to participant women. During their third trimester, they were asked about their aspirations (Aspiration Index) and their perception of their partners' understanding of and support for their aspirations. At one month and three months after childbirth, they were asked

about the severity of their depression (Edinburgh Postnatal Depression Scale). Correlation analyses and structural equation modelling showed that the partners' poor understanding and support predicted the severity of depression after childbirth. Perinatal health professionals should be encouraged to assess the pregnant women's aspirations and their partners' understanding and support regarding the women's goals in life.

Saito, T., Takeda, S., Yamagishi, Y., Kubo, R., and Kitamura, T.: Psychotherapy training on psychological mindedness in a Japanese nurse population: Effects and personality correlates. *Healthcare*, 5; 43, 2017. [BONDING DISORDERS]

Abstract: Aims and objective: The aim of this study was to determine whether the training would influence the psychological mindedness of nurses and midwives. In addition, we explored the relationship of the change of psychological mindedness before and after the training and the correlation with their personality traits. **Background:** It is important for perinatal health professionals such as nurses and midwives to acquire intervention skills such as psychotherapy and counselling techniques. We think that one of the essential requisites is psychological mindedness. **Method:** A total of 45 perinatal health professionals who participated in the postpartum depression prevention programme were distributed a set of questionnaires including the Psychological Mindedness Scale (PMS) and Temperament and Character Inventory (TCI) at the beginning and end of the training. **Results:** The PMS scores increased significantly after the training. A structural equation modelling suggested that PMS and self-directedness predicted each other whereas PMS predicted low harm avoidance. **Conclusion:** These findings indicate that the psychological mindedness of nurses and midwives could be advanced by a course of training and that this could be supported by high self-directedness. The harm avoidance trait may be reduced by increased psychological mindedness. **Relevance to clinical practice:** Nurses and nursing students are apt to psychological skill training in the advancement of psychological mindedness.

Kitamura, T., Ohashi, Y., Murakami, M., and Goto, Y.: Bonding disorders, current adult attachment, and perceived rearing in childhood in parents of children aged 10 years old or younger: A structural equation model approach In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Kokubu, M., Okano, T., Sugiyama, T., and Kitamura, T.: Effects of negative life events and coping styles on postnatal maternal bonding towards babies in Japanese community women: A longitudinal cohort study. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Takegata, M., Sakanashi, K., Tanaka, T., and Kitamura, T.: Personality, postnatal traumatic symptoms and maternal bonding disorder: A prospective study of a Japanese mother population. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Usui, Y., Haruna, M., Sakanashi, K., Tanaka, T., and Kitamura, T.: Psychometric properties of the

Maternal Antenatal Attachment Scale: A study in Japanese non-clinical mothers. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Baba, K., Kataoka, Y., and Kitamura, T.: Discrete category of parents' neonatal abuses and perinatal bonding disorders: A longitudinal study of Japanese couples for three months after childbirth. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Saito, T., Yamagishi, Y., Sakanashi, K., Tanaka, T., and Kitamura, T.: Personality correlates of perinatal depression and bonding disorders: A study in Kumamoto In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Shigematsu, K., Imura, M., Nanishim K., and Kitamura, T.: Breastfeeding self-efficacy in Japanese mothers of an infant: Association with feeding style, mother-to-infant bonding, and depression after childbirth. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]

Kitamura, T., Ohashi, Y., Sakanashi, K., and Tanaka, T.: Do you want another baby? Bonding disorder, dysphoric mood and demographic determinants of desire for next baby among Japanese women with a 1-month old child. In T. Kitamura and Y. Ohashi (Eds.) *Perinatal Bonding Disorders: Causes and Consequences*. (in the print). [BONDING DISORDERS]