

sexual reassignment. Her twin sister expressed similar feelings. Both twins showed borderline intelligence, and neither were considered delusional. Physical examinations indicated normal female development. Their admission to a psychiatric institution for evaluation was upon request and they were discharged following the initial visit. They were unavailable for follow-up.

The twin literature on transsexualism reviewed in this paper reveals a series of scattered case reports. Most appeared in the 1970s, although one appeared in 1992. Among them are several MZ male and female sets, both concordant and discordant for transsexualism. According to the authors, most explanations of transsexualism have ignored genetic factors while focusing on sex of assignment and rearing. This most recent report does

not allow definitive conclusions as to the etiology of the condition, but rekindles interest in possible genetic explanations.

Twin Parenting Stress

Parenting young twins is known to be stressful, but specific pre- and postnatal determinants continue to warrant investigation. The central aim of a recent Belgian study was to determine whether parenting stress in mothers of twins can be predicted by their prenatal and postnatal well-being, marital support, social support and presence of other children in the family (Colpin et al., 2000). Researchers interviewed forty mothers at two key time points: 27 weeks into the multiple pregnancy and one year following the twins' birth. The General Health Questionnaire (GHQ-30) was completed by partici-

pants at both interviews, while the Parenting Stress Index (PSI) was administered during the second interview only. Mothers had a mean age of 31 years which was characteristic of mothers of multiples in the surrounding area.

Major findings were that (1) parenting stress one year after the birth of twins was predicted by mothers' personal well-being and marital support at the 27th gestational week, and (2) social support and the presence of other children in the family were not significant. These data offer meaningful guidelines to better prepare families for managing the challenges of raising twin children. In particular, the investigators urged setting aside quality time for self and spouse, and providing spouses with instructional materials.

Twin Stories

Clones: From One to Three

Now that farm animals have been cloned a key question is whether they can reproduce successfully. This ability would offer important advantages for both farmers and consumers. Matilda, Australia's first cloned lamb, just acquired the second distinction of being a mother of triplets ("Cloned lamb", 2001). Immature eggs were retrieved from Matilda when she was three months old, matured in solution, fertilized in a laboratory and gestated by six surrogate mothers, three of which became pregnant. Most lambs do not reproduce until age two so obtaining eggs at earlier ages would allow more efficient breeding. This process was made possible by JIVET (Juvenile In Vitro Embryo Transfer).

Note: Given that the three infants were gestated by different animal mothers, it could be argued that they are not truly triplets because they did not share their intrauterine environment.

A Twin Athlete Lost

Eighteen-year-old freshman twins, Devaughn and Devard Darling, played football for Florida State University, in Tallahassee. On February 26, 2001 Devaughn collapsed and died during an early morning workout session ("Autopsy of Seminole", 2001). His teammates, but not his coaches, were aware that he had experienced chest pains during previous practices. The exact cause of death has yet to be determined. Twin loss is a sorrowful event for surviving twins and family members (Segal, 2000). It may be compounded by unique consequences variously associated with the twins' appearance (e.g., living identical twins may be painful reminders of lives that were lost) and age (e.g., birthdays often become days of mourning). This case may prove especially difficult because Devaughn's twin brother, Devard, was witness to this tragedy.

Note: The zygosity of the Darling twins was not indicated in press reports. I learned that Devard (wide receiver) is six feet, three inches tall

and weighed 195 pounds, while Devaughn (line backer) was six feet, two inches tall and weighed 220 pounds (Online). According to a standard physical resemblance questionnaire, their heights are consistent with MZ twinning, but their weights are consistent with DZ twinning (Nichols & Bilbro, 1966).

Another Twin Perspective on Cloning

The debate over the relative similarity of MZ twins and clones continues. In an insightful essay on the implications of cloning for social science and society, Dr. Alan Krueger, Professor of Economics at Princeton University, noted that MZ twins would be more alike because "they receive the same mitochondrial DNA from the mother's egg" (Krueger, 2001). This would be true if adult donors used enucleated eggs donated by a surrogate, but not if she used her own. Furthermore, adult donors and clones would not be subjected to the stresses and strains of twin gestations that can leave MZ co-twins with lasting physical and/or behavioral differences.

Generational effects interacting with age differences would seem to decrease similarity between clones and donors, but this remains an untested proposition.

I am not convinced that clones and their adult donors would differ as dramatically as some have suggested. It is even possible that such pairs may be more alike on some measures, relative to MZ twins, for reasons stated above. Currently, our best models remain MZ twins reared apart who, despite experiences in different families (and sometimes different cultures), show striking similarities for traits representing many behavioral

and physical domains. Given the rapid strides in the field of genetics and announcements of plans to clone a human being (Boudreaux, 2001), controversies surrounding relative twin-clone similarities will likely be replaced by observation and data. Until then, reference to available findings based on genetically and environmentally informative family pairings can keep speculation in check.

Death of Gin Kanie

In an earlier issue of *Twin Research* I reported the death of Japanese MZ twin, Kin Narita, at age 107 years

(Segal, 2000). Approximately 13 months later, on February 18, 2001, her twin sister, Gin, passed away at 108 years (Reitman, 2001). Kin and Gin mean "gold" and "silver," respectively. The twins were the first and second of seven children born to tenant farmers. Both married and raised large families. They remained unknown in their country until turning 100 years of age in 1992. It was then that the mayor of Nagoya visited them at Gin's home in recognition of Respect for the Aged Day. The media attention they received catapulted them into the limelight for the rest of their lives.

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