

Neglected Natural Experiments Germane to the Westermarck Hypothesis

The Karo Batak and the Oneida Community

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Abstract Natural experiments wherein preferred marriage partners are co-reared play a central role in testing the Westermarck hypothesis. This paper reviews two such hitherto largely neglected experiments. The case of the Karo Batak is outlined in hopes that other scholars will procure additional information; the case of the Oneida community is examined in detail. Genealogical records reveal that, despite practicing communal child-rearing, marriages did take place within Oneida. However, when records are compared with first-person accounts, it becomes clear that, owing to age- and gender-segregating practices, most endogamously marrying individuals probably did not share a history of extensive propinquity.

Keywords Westermarck hypothesis · Oneida community · Karo Batak · Inbreeding avoidance

The Westermarck hypothesis (Westermarck 1891) holds that humans possess an evolved inbreeding avoidance mechanism that operates such that, if an individual is exposed to another person for a significant period of time during the childhood of one of the pair, he or she will later experience aversion to the prospect of sex with the other. Westermarck's idea, arguably one of the first evolutionary psychological hypotheses, has received extensive attention over the past four decades. Scholars have investigated the Westermarck hypothesis using studies of incest taboos (Ember 1975; Fox 1962, 1980; van den Berghe 1983), surveys of mate selection preferences (Walter 1997; Walter and Buyske 2003), retrospective studies of incestuous individuals (Bevc and Silverman 1993, 2000; Parker and Parker 1986; Williams and Finkelhor 1995), and questionnaires concerning attitudes toward incest (Fessler and Navarrete 2004; Lieberman et al. 2003, 2007). The largest body of material in this enterprise, however, derives from what are termed natural experiments, social circumstances in which preferred or allowed marriage partners experienced

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extensive cosocialization, with the result that marital patterns, fertility rates, and similar data provide indirect indices of the extent to which such experience inhibits sexual attraction.

In addition to one circumscribed study of culturally preferred patrilineal parallel cousin marriage in Lebanon (McCabe 1983, 1985), extensive investigations have been conducted on marriage of minors in China and life in the Israeli kibbutzim. Wolf (1995) has spent more than thirty years examining a form of marriage in Taiwan and China in which parents of a male child adopt a daughter to be raised as a bride for their son. Wolf finds higher rates of divorce and prostitution use, and lower fertility rates, in couples having a history of early childhood cosocialization. These findings complement those from the Israeli kibbutzim. Motivated by an ideology of egalitarianism, the kibbutzim were founded as truly communal microcosms. Striving to break down barriers to gender equality and facilitate the full participation of women in the workplace, kibbutz members established nurseries and children's centers in which infants and children were reared communally under the supervision of full-time caretakers. Despite a preference for kibbutz endogamy, marriage among cosocialized individuals was virtually absent, as were other romantic or sexual unions (Shepher 1971, 1983; see also Spiro 1958:326–336, 347–350; Fox 1962; Neubauer 1965; Talmon 1964:213–214, 223–224).

Although results are by no means uniform, taken together, the corpus of existing evidence provides considerable support for the Westermarck hypothesis. However, when viewed individually, each of the investigations listed above suffers from limitations (see Fessler and Navarrete 2004). Supplementary avenues of investigation are therefore potentially important. I have identified two additional natural experiments; one of these has been overlooked by parties debating the merits of Westermarck's proposal, while the other has received only cursory consideration. Below, I briefly introduce the hitherto largely unrecognized case of cousin marriage among the Karo Batak in the hopes that others will pursue this avenue; I then turn my attention to a reevaluation of the consequences of communal rearing in the Oneida community.

The Karo Batak

As of the mid-1980s, matrilineal cross-cousin (mother's brother's daughter/father's sister's son, MBD/FZS) marriage was still a preferred arrangement among the Karo Batak of Sumatra (Kipp 1986; Singarimbun 1975). Despite having many recognized economic and political benefits, unions between MBD/FZS (*impal*) were quite rare, occurring in less than 4% of marriages (Singarimbun 1975:157–159). A number of factors make it likely that matrilineal cross-cousins experienced considerable cosocialization: (a) Karo villages were small and dense, providing for extensive social interaction; (b) many marriages were locally endogamous and, in cases of locally exogamous marriage, neolocal residence was rare (Singarimbun 1975:181–183); (c) although adult opposite-sex siblings followed avoidance rules, their relationship was considered the epitome of solidarity and support (Kipp 1986). It is therefore of interest that "People say retrospectively that they were unwilling to marry an *impal* because they did not 'love' their cross-cousins in [a] romantic-sexual

way.... People proffer the idea quite openly that *impal* are like siblings, and that this likeness makes the idea of marrying [them] unattractive.... Neither *impal* nor siblings can be the object of sexual desire” (Kipp 1986:640–642). Individuals often had considerable autonomy in choosing a spouse and, in cases where they did not, could resort to elopement to avoid *impal* marriage (Kipp 1986:641). Hence, though culturally preferred and strategically advantageous, *impal* marriage was subjectively experienced as incestuous (Singarimbun 1975:166), and this likely accounted for its low frequency. The preliminary evidence from the Karo Batak is thus congruent with the Westermarck hypothesis. This case is clearly deserving of a dedicated ethnographic investigation, even if it turns out that the relevant material can now only be collected retrospectively.

The Karo Batak case, apparently involving a clash between individual inclinations and cultural preferences for marriage among cosocialized first cousins, parallels circumstances previously documented in Lebanon (McCabe 1983, 1985) and Morocco (Walter 1997; Walter and Buyske 2003; Westermarck 1891). The second case to be examined here, that of communal child-rearing in the Oneida community of Christian Perfectionists, parallels the grand social experiment of the Israeli kibbutzim. As the Oneida case is fairly complex, some background is in order.

The Oneida Community

The nineteenth century saw a proliferation of utopian ventures in North America, many of which grew out of religious sects (Foster 1991; Nordhoff 1965). John Humphrey Noyes was a charismatic proponent of an unorthodox form of Christianity premised on the notion that all people contain an element of godliness, the fulfillment of which (perfection) can only be achieved by utter selflessness. Although Noyes was not the only advocate of Christian Perfectionism, he carried this philosophy to its most extreme by arguing that proprietariness of any kind constitutes a form of idolatry (DeMaria 1978:60–64). Noyes held not only that ownership of property brought the individual away from God, but that even the sentiments associated with proprietariness did so. As a consequence, any relationship that entailed emotions of exclusivity was an anathema to Noyes, for it barred the participants from realizing the godliness within themselves and one another (DeMaria 1978:16–37). A compelling speaker and energetic pamphleteer, Noyes persuaded a group of followers to pool their worldly resources in a collective and live in what he termed *complex marriage*, a communal sociosexual relationship in which exclusive dyadic unions were proscribed. Although hostility toward the group’s sexual behavior forced it to abandon its initial efforts in Putney, Vermont, in 1848 Noyes and his followers established a commune at Oneida Creek in New York. In contrast to many other attempts at utopian communalism, the Oneida community grew and prospered (averaging several hundred members at any one time), lasting a full generation before disbanding in 1879–1880 owing to a combination of internal dissent and external pressure (Carden 1969; DeMaria 1978; Robertson 1972). Two key factors make this remarkable venture of interest to students of Westermarckian phenomena. First, because they conceptualized their efforts as a pioneering social experiment, Community members regularly published newsletters describing life at

Oneida; similarly, the group's focus on scholarship and literary matters led many members to keep extensive diaries and compile voluminous correspondence. As a result, the Oneida community is one of the best-documented cases of sustained communalism on record. Second, because parental affection contains elements of both exclusivity and proprietariness, prodigious efforts were made to limit such sentiments, and to curtail the reciprocal filial emotions in children (DeMaria 1978:180–184). Children were conceptualized as belonging not to the parents but to the collective, and hence were to be loved and parented by the whole community (Robertson 1970:313). Accordingly, directly paralleling circumstances in the kibbutzim, from the time of weaning around one year of age, all children lived in a special area of the communal dwelling where they were overseen by a small number of adult caretakers (Carden 1969:63–64; DeMaria 1978:185–192; Noyes 1937:41–42).

Noyes conceptualized coitus as a spiritual act and, while licentiousness was frowned upon, the members of the Oneida community were quite sexually active (Carden 1969:53). Because reproduction was not viewed as the principal objective of sex, the men of the community practiced ejaculatory restraint. Although frequent public discussions of the extent to which members successfully lived up to the group's ideals apparently provided substantial incentive to master this technique, it did not completely preclude conception, and, together with some cases of pregnant converts and a few planned conceptions, between 1848 and 1869, 44 births occurred at Oneida (Carden 1969:51). Beginning in 1868, the community undertook a program of eugenics wherein elders designated particular individuals to procreate (DeMaria 1978:192–198). Over the next decade, 45 planned births occurred, along with the fruits of 13 accidental conceptions (Carden 1969:63). Hence, in combination with additions made when families with young children joined the community, over the 31-year life span of Oneida, a substantial number of children grew up in the communal Children's Wing. The eventual collapse of the practice of complex marriage and the rapid adoption of conventional marriage potentially provide the data needed to examine Westermarck's thesis that extensive exposure during childhood precludes subsequent sexual attraction, by examining rates of endogamy and fertility among the adult children of Oneida.

The Oneida case was raised by Taves (1994) in a short letter challenging Erickson's (1993) version of the Westermarck hypothesis. Taves states that, of 87 children born in the community who lived beyond age 20, 73 married. Contradicting Westermarckian predictions, 36 of the 73 individuals married within the community and, of these 18 couples, 7 had a spousal age disparity of 4 years or less; most of these 14 individuals had spent time away from the community as adults prior to marriage, so opportunities for mate selection were not constrained (cf. Hartung 1985). The average marital duration for the seven couples was 49 years, with no divorces, and each couple bore three children. In a brief response to Taves, Erickson (1994) contests the relevance of the Oneida case, arguing that (a) Oneida children were only reared communally after age 1.5 years; (b) children were discouraged from forming "exclusive" relationships; and (c) communal rearing involved segregation by age and gender. Given both the rarity of natural experiments and the excellent records of the Oneida community, the questions raised in the short-lived Taves-Erickson debate clearly merit closer scrutiny.

Taves drew on Teeple's (1985) definitive genealogical account of the complete membership of the Oneida community. My reading of Teeple's material differs somewhat from that of Taves. I found 82 natal community members who lived to age 20, 67 of whom married. The disparity is likely due to Taves having counted individuals who left the community in late childhood or early adolescence. Since many of these individuals moved far from Oneida, there was little chance of marriage with a community member, and hence these cases are not relevant to the issue at hand. In addition to confirming the seven marriages among natal members 4 years or less apart in age noted by Taves, I also identified an eighth marriage, a couple separated by 1 year of age, in which the male entered the community at age 21 months. Since, at the time of the boy's entry into the community, communal rearing only began at age 14–15 months (Noyes 1937:22), the boy's late arrival did not substantially reduce potential cosocialization. I therefore add this marriage to Taves's list of seven marriages. Hence, of 68 natal community members who married, 16 married a fellow member four years or closer in age.¹ Given community members' relative freedom to choose a marriage partner, the fact that nearly one fourth of all marrying individuals selected someone with whom they may have experienced childhood propinquity thus potentially challenges the Westermarck hypothesis.

Borrowing a tactic from Wolf (1995), I evaluated the success of marriages among potentially cosocialized individuals by comparing their fertility to that of marriages among non-cosocialized individuals. The eight marriages among community members having a spousal age disparity of 4 years or less averaged 2.75 children per couple, with seven of these couples having three children and one having a single child. In comparison, the 37 individuals who married non-community members and the three individuals who married persons who joined the community after childhood averaged 2.45 children per couple. For the eight natal community members who married other community members differing in age by more than 4 years (range 6–36 years, mean=16), the average is 2.0 children per couple. Taves is thus correct in arguing that marriages among possibly cosocialized individuals were apparently successful, as they were at least as fecund as one might expect marriages at this time and place to be. We turn, therefore, to the question of whether Erickson's objections suffice to dismiss the Oneida case.

Erickson argues that Oneida children did not experience the full cosocialization necessary for the Westermarck effect because communal rearing only began at 1.5 years. However, this objection is both empirically and theoretically suspect. Erickson somewhat exaggerates the delay in cosocialization, as communal rearing actually began at age 14–15 months (Noyes 1937:22), a transition point that was eventually reduced to less than 12 months of age (DeMaria 1978:185). More importantly, although a number of advocates of the Westermarck hypothesis have

¹One marriage occurred between individuals differing in age by 6 years; the next closest differed in age by 9 years. Following Taves's criteria, I count these two marriages (which produced one and six offspring, respectively) in the non-cosocialized category. Because childcare was in the hands of a small number of adults, the existence of a substantial number of marriages between age-disparate community members does not challenge the Westermarck hypothesis, as the parties likely experienced limited propinquity during the childhood of the younger individual.

posited the existence of a sensitive period during which cosocialization activates an evolved kin-recognition mechanism (Bevc and Silverman 2000; Fox 1980; Shepherd 1983; van den Berghe 1983; Wolf 1993, 1995), since neither Westermarck nor his modern advocates (including Erickson himself) suggest that the sensitive period is restricted to the first year of life, the fact that Oneida communal rearing only began thereafter means that, at most, we should expect a reduction in the strength of the Westermarck effect, not its elimination. Moreover, both reviews of published material (Bevc 1999) and recent findings (Lieberman et al. 2003) call into question the existence of a punctuated sensitive period during early childhood.

Erickson asserts that the Noyesian rejection of proprietariness interfered with cosocialization processes by reducing the extent to which communally reared children were exposed to one another, since exclusive friendships were proscribed. However, again, both empirical and theoretical difficulties plague this argument. First, since the prohibition on exclusive relationships was not effectively enforced by caretakers (Noyes 1937:49–52), it probably did not substantially reduce the level of intimate interaction between children. Second, prevailing versions of Westermarck's hypothesis stress propinquity rather than the formation of intensive dyadic relationships as a condition for pseudo-sibling learning. For example, given the size of the kibbutz cohorts, the robust avoidance of endogamous sociosexual relationships discussed earlier is not plausibly explained as a product of a history of exclusive dyadic relationships among cohort members.

Erickson's third rebuttal is more cogent, as there is indeed evidence of age- and gender-based segregation among the Oneida children. Turning first to the former, although all children lived in the same building, they were divided by age into three groups: entry to 3–4 years, 3–4 years to 6 years, and 6 years to early teens. During the day, the groups played, and were educated and cared for, in separate rooms (Noyes 1937:23). Children graduated from one room to the next as a cohort (Noyes 1937:41). Outdoors, children associated primarily with their own cohort (Noyes 1937:93). The approximate age differences among the eight couples at issue are as follows: (a) 4 years (two couples); (b) 3 years (three couples); (c) 2 years (two couples); (d) 1 year (one couple). Given the age segregation system, members of couples in category *a* occupied the same room for the first time when the boy was 10 years old and the girl was 6; members of couples in category *b* may have briefly overlapped in the first room, but did not significantly overlap in the second room, and only shared the third room after the boy was 9 years old and the girl was 6; members of couples in category *c* may have shared the first room for several years, may have shared the second room for up to one year, and shared the third room for many years; and members of the couple in category *d* (a single couple, who had only one child) shared all three rooms. Lastly, some Westermarckians (Wolf 1993, 1995) posit that care of younger children may play an important role in the development of sexual avoidance. However, in the Oneida case, since designated adults were responsible for each age group on a full-time basis, intimate interactions between age-discrepant children did not occur as a result of caretaking. In sum, although the children's involvement in the community's industries (see below) may have mitigated the effect to a small extent, as a result of age segregation, participants in five of the eight marriages probably had relatively little to do with one another during childhood.

The evidence regarding gender-based segregation is mixed. Noyes's autobiography presents extensive recollections of exclusively same-gender play but also briefly notes that young boys and girls sometimes played together, including furtive (and highly proscribed) sex play (1937:131, 148–149). For one hour a day, six days a week, boys and girls of all ages worked together under adult supervision in a community workshop. Although boys and girls of a given age group usually occupied the same room during the day, Noyes also makes reference to a day room reserved for girls (Noyes 1937:37). At night children slept in adults' bedrooms on a rotating basis; Noyes speaks of sharing a bedroom with boys but never mentions doing so with girls (Noyes 1937:44–45, 55).

Overall, age-based segregation and, to a lesser degree, gender-based segregation were probably such that more than half of the individuals who married fellow natal community members did not experience extensive childhood propinquity with their future spouses, thus substantially blunting the impact of Taves's claims. Advocates of the Westermarck hypothesis can further point out that the sole couple that unquestionably experienced extensive cosocialization had only one child, in contrast to the three children borne by each of the seven other couples. However, skeptics can note that two additional couples who likely experienced considerable cosocialization were, at three children per couple, more fecund than the average non-cosocialized couple; moreover, the fact that these three couples married at all seems to call the Westermarck hypothesis into question. The latter critique is partially dulled, however, by the recognition that there was a substantial cultural divide between members of the Oneida community and the larger society. Life at Oneida was pervaded by reiteration of, attention to, and reflection on a theology and a philosophy that were radically at odds with many of the values and attitudes prevalent at the time. Accordingly, unions among some cosocialized members of Oneida can potentially be understood as a compromise between the discomfort of sex with kin-like others and the distress of entering an alien culture.² I conclude, therefore, that, while Erickson may have been wrong about many of the particulars, he was correct in downplaying the challenge that the Oneida community poses to the Westermarck hypothesis—in the end, while fascinating, this utopian experiment does not constitute a strong negative case in the assemblage of natural experiments.

Afterword

Although the history of the Oneida community may shed little light on the question of the existence of evolved inbreeding avoidance mechanisms, it still has much to offer the student of human nature. Particularly noteworthy in this regard is material

²Commenting on an earlier draft of this paper, an anonymous reviewer noted that an indirect measure of the strength of the postulated Westermarckian effects would be to compare the rate of endogamy among Oneida community members (31 out of 68 individuals who married, or 45.6%) with that characteristic of surrounding areas at the time. However, in addition to overlooking the issue of cosocialization central to Westermarck's hypothesis, this suggestion fails to take account of the extent to which cultural differences between community members and outsiders posed a sizeable obstacle to exogamy, precluding comparisons with marital patterns in surrounding towns.

bearing on a number of social emotions. As noted, the Oneida ideology viewed strong dyadic bonds as detrimental to spiritual growth and well-being. Members were constantly warned against the dangers of what was informally termed “stickiness.” Adult social relationships were closely monitored, and evidence of excessive personal attachment led to public shaming during frequent formal rituals of criticism. Romantic love was singled out as especially sinful and socially disruptive, and exclusive sociosexual relationships were an anathema (DeMaria 1978:69–73). However, despite such strong prohibitions, there is abundant evidence of powerful romantic attraction, romantic jealousy, and a desire for exclusivity (Carden 1969:58–61). In the closing years of the community’s existence, as their aged patriarch relinquished control, younger members began to openly express dissatisfaction with complex marriage. When dissent over this and other aspects of the community’s sexual practices combined with pressure from outside authorities to abandon complex marriage, couples formed rapidly, twenty marriages occurred within four months, and a conventional family structure quickly appeared (Carden 1969:89–106; DeMaria 1978:214–217). Similarly, despite explicit ideological prohibitions against strong emotional attachment between parents and children, old and young alike found the separations entailed by communal child rearing to be intensely painful (Noyes 1937:66). Paralleling events in the history of Israeli kibbutzim (Spiro 1979), strong ideological commitments and formal social sanctions eventually crumbled in the face of intense parental sentiments, and, with the rise of individual families, communal child rearing was abandoned. Given debates over the extent to which romantic love stems from innate psychological mechanisms (see Harris 1995; Jankowiak and Fischer 1998), and recent questions regarding the power or ubiquity of maternal sentiments (see Wolf 2003 and commentaries thereon), both the kibbutz case and that of the Oneida community are thus deserving of further scrutiny.

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