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INVITED COMMENTARY

A Problematic Test of the Kin Selection Hypothesis Among
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Camperio Ciani, Battaglia, and Liotta (2015)

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Abstract

Camperio Ciani et al. argued that the Urak-Lawoi people of Ko Lipe island live in a “traditional,” “subsistence primitive society” reminiscent of the “ancestral” human past and that their socio-cultural situation is “remarkably similar” to Samoa. On this basis, they asserted that the Ko Lipe Urak-Lawoi are an appropriate population for determining the role that kin selection played in the evolution of male androphilia. The purpose of this commentary is to outline some of our concerns with this characterization and with the statistical analyses conducted by Camperio Ciani et al. in their study of the Urak-Lawoi.

Elevated avuncularity by male androphiles could theoretically contribute, at least in part, to the maintenance of genes associated with male androphilia via kin selection (Wilson, 1975). In contradistinction to this kin selection hypothesis for male androphilia, Camperio Ciani, Battaglia, and Liotta (2015) reported that male sexual orientation differences in avuncularity do not exist among the Urak-Lawoi of Ko Lipe¹, a small island in the Andaman Sea off the southern coast of Thailand.² Male androphiles in this population are often transgender, although cisgender male androphiles also exist. Within Urak-Lawoi culture, transgender male androphiles are known as *na-ning*.³ Vasey, Pocock, and VanderLaan (2007) suggested, on the basis of their work

in Samoa, that elevated avuncularity among male androphiles may be contingent on the transgender form being expressed. Camperio Ciani and colleagues argued that the Urak-Lawoi of Ko Lipe live in a “traditional,” “subsistence primitive society” reminiscent of the “ancestral” human past and that their sociocultural situation is “remarkably similar” to Samoa. On this basis, they asserted that the Ko Lipe Urak-Lawoi are an appropriate population for determining the role that kin selection played in the evolution of male androphilia. The purpose of this commentary is to outline some of our concerns with this characterization and with the statistical analyses conducted by Camperio Ciani and colleagues in their study of the Urak-Lawoi.

1 The spelling of Ko Lipe can vary. We have chosen to utilize the most commonly employed spelling.

2 Camperio Ciani and colleagues also discussed research they conducted in Italy and Spain. Due to space restrictions, the focus of this commentary is on their Urak-Lawoi work.

3 Camperio Ciani and colleagues referred to *na-ning* using the ethnographically imprecise term *kathoey*—a Thai word that refers to transgendered males. Both Urak-Lawoi *na-ning* and Thai *kathoey* live on Ko Lipe. Because Camperio Ciani and colleagues employed the word *kathoey* in describing *na-ning*, it is unclear whether they distinguished between the two.

Camperio Ciani and colleagues' characterization of the Urak-Lawoi community on Ko Lipe as a "subsistence primitive society" is inaccurate. A subsistence economy can be defined as a nonmonetary economy that relies on natural resources to provide for basic needs, through hunting, gathering, subsistence agriculture, and pastoralism (for examples, see Lee & Daly, 2004). In reality, the Urak-Lawoi of Ko Lipe are deeply enmeshed and impacted by the modern tourism economy of the island. As noted by Camperio Ciani and colleagues, most *na-ning* work in the tourist industry. Moreover, the Ko Lipe Urak-Lawoi have been forced off their traditional land as resorts are constructed along the island's beaches. It is no exaggeration to say the average Urak-Lawoi on Ko Lipe regularly encounters Western tourists.

To give readers an idea of the scale of rampant development that confronts the Ko Lipe Urak-Lawoi at every turn, consider the island's main road, Walking Street, which transects the eastern portion of Ko Lipe from Pattaya Beach in the south toward Sunrise Beach in the east. As of December 2014, no fewer than 130 identifiable businesses could be counted along the length of this road (12 more were either under construction or closed and could not be identified). Bookending this 0.83km (0.52 mi) stretch of road are approximately 17 resorts on Pattaya Beach and 14 more on Sunrise Beach, with more under construction. One of the businesses along Walking Street is that icon of American culture, a 7-Eleven convenience store, which is a mere five-minute walk from the main Urak-Lawoi settlement on the island and where *na-ning* were observed by PLV and AJ purchasing food items. In the face of this, it is perhaps not surprising that Ko Lipe has been described as "this decade's poster child for untamed development in the Thai Islands" (Presser, Brash, & Bush, 2012, p. 349).

Camperio Ciani and colleagues characterized the Urak-Lawoi as "matriarchal" and "tribal," but neither term is accurate. "Matriarchal" literally means "rule by women," but anthropological research suggests that no such society has ever existed (e.g., Rosaldo, Lamphere, & Bamberger, 1974). Camperio Ciani and colleagues cited Granbom (2005), who described the Urak-Lawoi as a "matriarchy." She did so based on interviews with two informants who told her "God created the woman first and then the man" (p. 45) and "When a man makes an official decision, you always know that the decision comes from the women" (p. 45). Such statements cannot be taken as proof that matriarchy characterizes the Urak-Lawoi on Ko Lipe. Granbom (2005) seemed to recognize this when she stated "I want to point out. . . that my field studies in different settlements were too short for any reliable conclusion" (p. 45).

The Royal Anthropological Institute of Britain and Ireland (1951) defined a "tribe" as "a politically or socially coherent and autonomous group occupying . . . a particular territory" (p. 66). The Ko Lipe Urak-Lawoi are neither

socially nor politically autonomous from Thai society or from the tourism industry that surrounds them. With the possible exception of the island, Ko Bulon Don, none of the land that the Urak-Lawoi occupy is autonomous from that of non-Urak-Lawoi.

Camperio Ciani and colleagues stated that they obtained "a complete sample of a third-sex in a homogeneous traditional society." Imprecise distinctions between gender and sex aside, this claim is odd given that substantial Urak-Lawoi communities exist on a number of other Thai islands in the Andaman Sea. Camperio Ciani and colleagues asserted that they did not conduct research on these other islands because the study populations there are much smaller, yet the Urak-Lawoi population on Ko Lanta, for example, is substantial (about 400), and there are an estimated 4,000 Urak Lawoi in Thailand (UNESCO, 2001). Next, Camperio Ciani et al. contended they did not conduct research at any of these other sites because all are less isolated than Ko Lipe and this would have affected the results. However, Ko Bulon Don is even more isolated than Ko Lipe, yet Camperio Ciani and colleagues did not collect data there, despite the presence of *na-ning* on that island and its proximity to Ko Lipe. Finally, Camperio Ciani and colleagues claimed they did not collect data on any of these other islands due to their lack of familiarity with those Urak-Lawoi populations. Lack of familiarity did not preclude two of us (PLV, AJ) from speaking openly and at length with 15 *na-ning* on KoLipe during a period of 10 days in December 2014. As such, we consider these insufficient reasons for not conducting research that would have increased Camperio Ciani and colleagues' sample size so that meaningful statistical analyses could have been conducted.

Camperio Ciani et al. described the Urak-Lawoi on Ko Lipe as a society that is "remarkably similar" to Samoa. Based on 12 years of fieldwork in Samoa by two of us (PLV, DPV), we assert this characterization is a misrepresentation. While it is true that development has occurred in Samoa—particularly in the capital, Apia, and to a much smaller extent outside the capital where a handful of small to mid-sized resorts exist—development on the scale of what exists on Ko Lipe is simply nonexistent in the typical Samoan village where the majority of the population lives. In addition, unlike Urak-Lawoi, Samoans are not a marginalized, ethnic minority living on the fringes of a more dominant culture.

Camperio Ciani and colleagues suggested that elevated avuncularity among Samoan *fa'afafine* may be explained in part because Samoans share a national set of societal norms, including absence of homophobia and prejudice against pedophilia, as well as an expectation that *fa'afafine* will care for nephews and nieces. In direct contradiction to these claims, we note first that male-male sexuality is illegal in Samoa (Consolidated Acts of Samoa, 2014); however, male femininity is not. Second, pedophilia is criminalized in Samoa (Consolidated Acts of

Samoa, 2014). Third, quantitative evidence indicates that Samoans, including *fa'afafine*, do not expect *fa'afafine* to be more responsible for child care compared to men and women (VanderLaan, Petterson, Mallard, & Vasey, 2015). In claiming that their results refuted any possibility that elevated avuncularity in Samoan *fa'afafine* reflects adaptive design, Camperio Ciani et al. sidestepped discussion of four quantitative studies that indicate otherwise (i.e., Vasey & VanderLaan, 2010a; VanderLaan & Vasey, 2012, 2013, 2014).

The manner in which Camperio Ciani and colleagues chose to word their article may have left readers with the impression that we believe Samoa is some sort of an “ancestral” society—a living fossil that has been preserved into modern times. We do not. What we have argued and demonstrated empirically is that, on average, societies in which the transgender form of male androphilia predominates (such as Samoa) are more likely to exhibit certain sociocultural features that were present in the human ancestral past, suggesting that the ancestral form of male androphilia was likely the transgender form (VanderLaan, Ren & Vasey, 2013).

Camperio Ciani and colleagues' study of the Urak-Lawoi is hampered by two statistical limitations of primary importance, namely, the small sample size employed and a failure to control adequately for confounding variables. Regarding the former, Camperio Ciani et al. claimed their small Urak-Lawoi sample size ($n=38$) provided a medium level of statistical power, but their power analysis was based solely on the effect size of the Samoan male sexual orientation difference in avuncular tendencies presented in Vasey et al. (2007; i.e., Cohen's $d=.74$). They ignored smaller effect sizes reported in replication studies, which would have indicated much weaker statistical power (i.e., Vasey & VanderLaan, 2010b: Cohen's $d=.57$; VanderLaan & Vasey, 2012: Cohen's $d=.39$).

Regarding the lack of adequate treatment of confounding variables, it was only in their multiple regression analyses combining Urak-Lawoi participants with those from Italy and Spain that Camperio Ciani and colleagues considered the possible effects of any variables beyond sexual orientation (i.e., societal norms, age, general altruistic behavior toward nonkin children) on measures of kin-directed altruism. However, interaction effects between sexual orientation, culture, and these additional variables were not taken into account—although even if they had been, the small sample size of Urak-Lawoi would have severely reduced the statistical power needed to detect interaction effects. In any case, the key analysis where confounding variables should have been considered but were not was the direct comparison of Urak-Lawoi *na-ning* versus men (see Table 2 in their article). Of particular concern given that most *na-ning* work in tourism is the lack of attention paid to the influence of occupational status on kin-directed altruism. Employment in the tourist industry might constrain kin investment relative to alternative

economic activities (e.g., fishing), because the former may involve more hours of work per unit of time than the latter. Also, Camperio Ciani and colleagues reported that Urak-Lawoi men scored significantly higher on general interest in nonkin children than *na-ning*, and that general interest in nonkin children was positively correlated with avuncular tendencies. Such general interest in nonkin children may have inflated Urak-Lawoi men's willingness to invest in kin children. Thus, controlling for general interest in nonkin children statistically would have most likely revealed a trend (given the small sample size) toward elevated willingness to invest in nieces and nephews among *na-ning* relative to men.

It is entirely possible that transgender male androphiles outside of Samoa do not differ from gynephilic men with respect to kin-directed altruism. It would be ill-advised, however, to reject the kin selection hypothesis on the basis of Camperio Ciani et al.'s problematic study. We believe this to be particularly true in light of an entire suite of studies conducted in Samoa (reviewed in Vasey & VanderLaan, 2014) that have repeatedly documented elevated avuncular tendencies in transgender androphilic males using multiple independent samples that are far larger in size than Camperio Ciani et al.'s Urak-Lawoi sample.

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