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policing the edge: risk and social control in skydiving

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In this article, we draw on participant observation and interview data to explore risk and social control in skydiving. We explore Lyng's (1990) concept of edgework, and argue that too little attention has been paid to the ways edgeworkers may be enabled or constrained by various actors both outside and inside the edgework setting. We suggest that, while skydiving evokes notions of freedom and creativity, participants, and to a lesser extent outsiders, constrain individual freedoms in skydiving through various formal and informal attempts at policing. In particular, experienced skydivers monitor how other jumpers go about negotiating the edge, often subtly and sometimes conspicuously encouraging them to perform edgework in an acceptable manner. We conclude by discussing the implications of our findings for the conceptualization of the edgework model.

In the popular imagination, skydiving appears as the ultimate in freedom of expression and individuality. Images of enthusiasts leaping from planes, freefalling to 2500 feet and then drifting toward earth under their parachutes often inspire

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jumpers and non-jumpers alike to awed wonder. Yet freedom, as we all well know, is relative. While the popular imagery of skydiving may be inspirational, the reality of this activity is that freedom and individuality are often curtailed by the parameters of the sport itself—obviously with respect to how and where this activity can be performed, but more importantly, they are controlled and policed by the participants themselves and the standards that they observe and impose upon each other, both formally and informally. In contrast to its popular image, skydiving is not immune to policing and control by forces both internal and external to it.

In other individual sport pursuits such as hiking, for example, freedom and individuality may be far greater, as more choices can be made with respect to where and with whom one hikes, which type of equipment one chooses, and so on. Even pursuits such as motorbike riding, although it requires and relies on technology (in terms of the bike and helmet) and administrative pre-requisites (such as licensing and registration, for on-road activities), can be a solitary pursuit—bikers can choose when and where to ride their bikes and with whom they might do so. Skydiving, on the other hand, is comparatively 'encumbered.' While individuals may launch themselves from planes quite independently of fellow jumpers, obviously not all planes allow for such activity, nor is landing anywhere appropriate or desirable—issues related to geography aside. Designated planes, pilots and drop zones (DZs) are required elements of the sport. Further, choice in terms of equipment and its usage are highly policed, not only by drop zone operators (DZOs) who may face the possibility of liability for death or injury in the event of a mishap, but equipment and behavior choices are also policed by fellow jumpers who may openly admonish (and at other times encourage) particular equipment choices and skydiving practices. In contrast to the popular 'freedom of the skies' imagery associated with this activity, skydiving as an expression of 'freedom' is, we argue, relatively policed.

In this article we examine the means by which freedom and choice are controlled by and policed within and, to some extent, outside of the sport of skydiving. We begin by orienting our analyses to a framework of risk-taking activity inspired by Lyng's (1990) notion of edgework. Next, we provide a

description of our research methods, followed by a general description of the practice of skydiving. In our results section, we first discuss the types of policing external to skydiving, and then take up the most pervasive forms of social control, those which come from other jumpers. Finally, we discuss the implications of our findings for the edgework model.

EDGEWORK

Lyng's (1990) concept of edgework conceptualizes voluntary risk-taking as ''involving, most fundamentally, the problem of negotiating the boundary between chaos and order'' (Lyng 1990:855). Essentially, edgework involves exploring the limits of one's ability and/or the technology one is using, while maintaining enough control to successfully negotiate 'the edge' (Lyng 1993:111). Lyng's original analysis employs a Marx-Meadian synthesis, suggesting that particular conditions and consequences of post-industrial society create environments that limit individual expressions of creativity.[1] Spontaneous creativity is limited because individuals are constrained by the means of production. When spontaneous creativity is denied by material production, individuals will seek creative outlets outside of work (such as drug consumption or motorcycle riding—see Lyng 1998). Rather than feel robbed of individual choice and pushed through life, some individuals will seek freedom of expression in areas that depend precisely upon risk and skill—skills that are underemployed in the realm of material production. As Lyng notes, ''for some, the dearth of possibilities for spontaneous and self-realizing action in the economic and bureaucratic spheres can be compensated for in the leisure-time pursuit of play'' (1990:870).

In the field of sport sociology, one sees certain parallels between Lyng's analysis and Elias and Dunning's (1986) discussion of the quest for excitement (what some other sport sociologists have called ''exciting significance''—e.g.,

[1]More recently, Lyng (2005) has acknowledged that the synthesis of Marx and Mead may be complemented by an approach that conceptualizes edgework as an extension of the reality of consumer society, a ''particular permutation of the structural logic embedded in the postmodern economy and culture'' (Lyng 2005:297). He posits that these seemingly divergent explanations may reflect the ongoing debates about the ''central structural imperatives of (post)modern society'' (Lyng 2005:47).

Atkinson 2002; Maguire 1991). These authors suggest that as societies become increasingly differentiated, individuals undergo civilizing processes whereby they develop high levels of emotional control. In response, people search out ''mimetic'' activities—leisure activities that allow a quest for excitement that is ''complimentary to the control and restraint of overt emotionality in our ordinary life'' (Elias and Dunning 1986: 66). The authors class most, though not all, leisure activities into this ''mimetic class.'' It is here that we see the divergence between the notion of exciting significance and edgework. All edgework activities could be classified as mimetic, but not all activities in the mimetic class are forms of edgework (e.g., Elias and Dunning specifically mention chess, painting, and ''Western'' films).

Lyng points out that all edgework activities involve the specific use of skills (such as those employed by graffiti writers, skateboarders and BASE jumpers—see Ferrell 2005).[2] The skills that participants bring to bear are activity-specific, but are characterized by an ability to maintain control in situations that may appear to others as chaotic (like filming someone else's edgework experience while jumping from a bridge yourself—see Ferrell, Milovanovic, and Lyng 2001). An important part of being an effective edgeworker is a 'survival instinct,' the ability to maintain composure in the face of chaos. Beyond this instinct, however, different dimensions of a given pursuit often call for different sets of skills in maintaining control while negotiating the edge (for a discussion of skill sets employed in ''financial edgework,'' see Smith 2005:196–97).

Indeed, several observers have pointed to the importance of the concept of control in Lyng's edgework model (Celsi et al. 1993; Lois 2005; Miller and Frey 1996; Reith 2005). Lois (2005), for instance, outlines how search and rescue volunteers maintain a sense of emotional control at various stages of the edgework experience, including redefining their feelings in the wake of ''unsuccessful'' missions. Collectively, risk research suggests that edgeworkers do not blindly walk the edge, but rather stake it out, evaluating how much 'chaos' they

[2]A BASE jump is a parachute jump from a stationary object rather than an aircraft. The acronym stands for Building, Antenna, Span (bridge), Earth (cliff).

are able to manage given their expertise, experience, and ability to maintain their cool in the face of sometimes extreme disorder (cf. Natalier 2001). That is, edgeworkers undertake a process of self-policing in their chosen risk activity(ies), making explicit choices about the technologies they employ and the practices in which they engage. Edgeworkers perceive themselves as in control of their risk environments and hence responsible for their own survival. Lyng further notes that part of this control is illusory—edgeworkers may perceive control in their ability to negotiate situations that may be driven far more by chance than by skill. However, pure gambles, activities where skill does not come into play, tend to be of considerably less interest to edgeworkers. Lyng states, ''edgework is one of the few experiences in modern life where 'success' (survival) can be unambiguously attributed to individual skill'' (1990: 873). While success may be unambiguous from the skydiver's point of view, the degree to which such a successful jump is due to individual effort alone may be considerably more ambiguous once both the formal and informal methods of policing involved in skydiving activity are considered.

We have briefly highlighted some of the important dimensions of the edgework model to which researchers have attended. One aspect, we suggest, that has not been sufficiently explored is the extent to which edgeworkers encounter forms of social control as they endeavor to crowd the edge. Too little attention has been paid to the interactional setting within which edgework takes place—the risk regime of a particular setting, or the particular patterning of behaviors within, in this case, the sport of skydiving. Several sociologists of sport have pointed out that particular understandings of risk are embedded in sporting institutions and relationships, and inform the kinds of hazards to which athletes subject themselves (e.g., Albert 2004; Donnelly 2004; Pike and Maguire 2003; Safai 2003; Young 1993). In many cases, this takes the form of various explicit and implicit pressures to take *more* risks than an athlete might otherwise do, something observers have called ''positive deviance'' or the ''sport ethic'' (Hughes and Coakley 1991; Johns 1998). Regardless of the specific types of pressures applied, these studies make it clear that within sport, there are various policing agents at play. It seems to us an oversight, then, that this angle of edgework

activities has not received closer attention. Edgeworkers crowd the edge *as* individuals, but often their experiences are intimately interwoven with institutions and other individuals, particularly fellow practitioners. It is with this dimension of the edgework model that we concern ourselves in this article.

RESEARCH METHODS

In generating data for this research, the first author engaged in ethnographic research, involving six months of participant observation (participant as observer) at various Western Canadian locations as well as 37 in-depth interviews with current participants in the sport. At the time of the research, he was a full participant in the sport, involved in recreational jumping, coaching and instruction. Prior to the onset of fieldwork, he had been skydiving for approximately four years. He spent the 1998 skydiving season participating in jumping and social activities at two drop zones. Because of weather, a season on the Canadian prairies generally lasts from April or May to October. This particular season, his first jump was in mid-April, and his last in early November. Most weekends, and occasionally during the week, he spent time at one of the drop zones, or attending one of a number of skydiving events. During these months, he completed approximately 130 skydives and attended several get-togethers away from the drop zone. Long after having left the sport, the first author revisited the field in July and August of 2004 to explore some of the ideas for this article and to check analytical ideas with participants. Fieldnotes were made after each of these encounters.

Through the course of the initial participant observation experiences and discussions with several experienced jumpers, a sampling frame was constructed including a relevant range of experiences, characteristics, and examples. Interviews were conducted with a range of participants, including both men and women; jumpers of low, intermediate, and high experience; recreational, competitive, and semi-professional (involved in instruction) jumpers; as well as jumpers with and without experience of serious injury in the sport. Of the 37 interviewees, 20 were male, 17 were

female.[3] They ranged in age from 19 years to over 60 years. At the time of the interviews, they had been involved in the sport anywhere from a few months to almost 30 years, with an average jumping 'career' spanning about 8.5 years. A couple of interviewees had fewer than 30 jumps, while a number had several thousand to their credit, with an average across the sample of almost 1100 jumps and a sample median of 560 jumps. While the interviewees ranged from students to working professionals, all identified themselves as middle class. The interviews ranged between 45 and 120 minutes, and averaged just short of 72 minutes. All names reported in both fieldnote and interview excerpts are pseudonyms.

We worked back and forth between observational and interview data, first coding in very general terms (codes like ''edgework,'' ''human error'' and ''assessment of risk''), and then working within these broad areas to develop and refine analytical ideas (around themes like ''edgework and control'' or ''policing the edge,'' for instance). As we developed these ideas, we checked them with two or three key informants for participant validation. As the analysis neared completion, we shared these ideas with several jumpers, asking them to verify, challenge, or suggest amendments to the analysis of risk and social control in skydiving. Finally, we invited and received feedback on a draft of this manuscript from several jumpers.

For the purposes of this article, the central limitation of this research is that we do not have data pertaining to former jumpers who may have left the sport as a result of some of the pressures we discuss. Without these data, we are limited to speculation in certain areas based on our analyses as well as the interpretations of current jumpers. Before we turn to our results, a brief description of skydiving equipment and some common practices will help the reader interpret the findings and analyses.

[3]A 2002 survey by the United States Parachute Association (U.S.P.A.) revealed that there were over 33,000 members of the association. The results of the survey highlight a gender imbalance in the sport, with women representing just over 15% of respondents. Unfortunately, the Canadian Sport Parachuting Association (C.S.P.A.) does not collect similarly comprehensive data. The editor of *Canpara*, the regular C.S.P.A. publication, informed us that, as of February of 2004, there were 400 female and 1872 male members of the of the C.S.P.A. (N. Ambrus, personal communication, June 10, 2004).

THE PRACTICE OF SKYDIVING

Generally, skydiving takes place at a drop zone (DZ), which often consists of little more than a runway, some hangar space, perhaps another building or two, and an area in which skydivers land their parachutes. Smaller DZs normally draw primarily local jumpers, while larger ones often host foreign teams and other groups who want to take advantage of state of the art facilities and aircraft fleet. In addition, many skydivers attend events called ''boogies.'' Boogies are special events hosted by one DZ to draw jumpers from surrounding DZs for jumping and partying (Laurendeau 2004). They range from the relatively small, which draw jumpers from only a few DZs, to large international boogies such as the World Freefall Convention, which draws thousands of skydivers every year.

The central piece of skydiving equipment is a ''rig,'' which is a container system containing two parachutes: a ''main'' and a ''reserve.'' As the names imply, a main parachute is the one normally deployed and landed. A jumper may, however, experience a ''malfunction,'' meaning that the main fails to properly inflate for some reason. In this case, one may or may not jettison the main (depending on the type of malfunction), before deploying the reserve. Rigs may also be equipped with a device known as an ''automatic activation device'' (AAD). The purpose of an AAD is to measure the altitude of a jumper as she or he falls, as well as her/his rate of descent, and to automatically deploy the reserve parachute if a jumper is too close to the ground and still falling too quickly. Skydiving regulations in most countries mandate that each student rig comes equipped with an AAD, and many experienced jumpers choose to equip their rigs with them as well (for a more indepth discussion of AADs, see Laurendeau 2000).

Jumping related activities dominate daylight hours at the DZ. Whether practicing a skydive on the ground prior to the jump (referred to as a ''dirt-dive''), packing one's parachute, ''manifesting'' (registering) for a jump, or actually doing a skydive, jumpers spend much of the day occupied by activities directly related to jumping (Celsi et al. 1993). In general, there are two parts to each skydive. First, there is the freefall portion which, for most jumpers, is the

'working' part of the skydive.[4] Depending on the altitude from which they jump, each jumper has a certain amount of time, usually between 30 and 60 seconds, to perform as many maneuvers as possible before the time comes to activate their parachute. The second part of the skydive begins once one has deployed one's parachute. For many, it is a great deal of fun to 'play' with their parachutes high up in the air. Moreover, a number of jumpers enjoy testing the limits of their canopies closer to the ground. Modern high-tech canopies are very responsive, and can be flown at very high speeds as well. Many jumpers enjoy generating high speeds by doing a maneuver commonly called a ''hook turn,'' or, less commonly, a ''carve.''[5] This move involves initiating a turn just prior to landing so that the canopy dives towards the ground. As it planes out of this dive, the canopy realizes an increase in ground speed. The parachutist ''surfs'' just inches above the ground for some time, and then uses the ''brakes'' to ''flare,'' slowing the parachute for landing. If performed skillfully, a hook turn can result in a very spectacular approach, and a soft and safe landing. There is, however, a relatively small margin for error with these maneuvers. In fact, many serious injuries and a number of deaths in skydiving have resulted from improperly executed hook turns.[6]

[4]As one jumper pointed out after reading a draft of an earlier paper, a third part of the skydive is important in understanding risk. The airplane ride to jump altitude is a significant worry for some jumpers. This is beyond the scope of this article, however.

[5]The vast majority of jumpers who perform these maneuvers are men. This observation calls for a more comprehensive discussion of gender and edgework than we can provide here.

[6]For example, jumpers sometimes sustain very high-speed collisions with the ground, obstacles such as fences or buildings, other jumpers, or bystanders on the ground. If one is 'lucky,' these incidents may result in injuries like fractures (in fact, the term ''femur'' is sometimes used as a verb by skydivers—''that guy's gonna' femur if he doesn't fix his hook turns''). If not, these collisions may result in catastrophic injuries, sometimes to internal organs, other times to the head. Generally, it is understood that injuries are routinely under-reported, so nobody makes a concerted effort to track them. Canada has seen relatively few fatalities due to low hook turns, though one interviewee in this study later died as a result of injuries sustained after a poorly-executed hook turn. The fact is that these fatalities are not extremely common and Canada has a relatively small skydiving population and short jumping season. It is easier to see a broader pattern with data from the U.S., where far more skydives are made each year. Drawing on U.S. data, Hart and Griffith (2003) examined skydiving fatalities between 1986 and 2001, and found a zero-order correlation of .82 between year and number of landing fatalities, with at least nine such fatalities each year between 1996 and 2001.

One important point to emphasize here is that jumpers' safety is a function of not only their own choices and actions, but also the choices and actions of others. Whether in the aircraft, in freefall, or under canopy, jumpers share space with each other, and can potentially cause each other problems. If one jumper does something dangerous while climbing out of the aircraft, for instance, he or she could potentially damage the airplane, endangering the lives of other jumpers as well as anyone else on board or on the ground below. More commonly, one might do something reckless in freefall or under canopy that could endanger someone else in some way. Obviously, there is a certain degree of trust that one places in other jumpers when skydiving. As we will see, this means that jumpers pay careful attention to the actions of other jumpers. First, though, we will briefly discuss the ways in which actors who are external to skydiving attempt to police the activity.

POLICING FROM OUTSIDE OF SKYDIVING

Social actors outside of the world of skydiving may attempt to police the edge of skydivers in particular ways. In general, these fall into two broad categories. In the first, government agents attempt to put constraints on the workings of parachuting operations, though they sometimes lack knowledge about the sport of skydiving. In the second, individual actors, who also tend to know little about the sport, send skydivers or potential skydivers messages that this activity is fraught with hazard, and that one should not engage in it. As we shall argue, these attempts at policing tend to have much less impact on skydivers' behaviors than do the internal forms of social control discussed later.

Government Agents

As noted on the U. S. P. A. website, ''Rules established by the Federal Aviation Administration address skydiving aircraft and crewmembers, and the FAA oversees parachute manufacturing standards, parachute technicians (FAA riggers), and the packing of reserve parachutes. Otherwise, skydiving regulates itself'' (U.S.P.A., n.d.). In other countries, the picture is similar. Government departments or organizations regulating airspace, such as Transport Canada, oversee

skydiving mostly at the level of aircraft operation and certain limited types of certifications. As for the behaviors of skydivers in day-to-day jumping activities, this is left up to skydiving associations to monitor, a topic discussed in greater detail later.

Another way in which government agents attempt to police the edge in skydiving is in the case of an investigation and public inquiry into a skydiving fatality. While these kinds of proceedings are relatively rare, they garner much public attention. For instance, there have been at least two major fatality inquiries into skydiving deaths in Western Canada in the past several years. Both were, at times, front-page news in the local papers, and were certainly hot topics of conversation amongst jumpers in the region. The reality, however, is that in the absence of criminal charges against someone, which are exceedingly rare,[7] this kind of policing has little direct effect on skydiving operations. Because skydiving is basically self-regulated, the only direct effect that such an inquiry might have is in influencing a government body like the FAA or Transport Canada. In this case, these bodies might institute tighter regulation of certain aspects of skydiving operations. Formal regulation, however, is considered anathema to edgeworkers, as regulation is believed to be the purview of participants alone. When a fatality inquiry is underway, skydivers express worry that it will result in heavier regulation of the sport.

There is one notable exception to this pattern. Particular skydivers may be deeply affected by the process of a public inquiry if they are required to take part in the inquiry itself. Often, that is because they were a witness to the incident and/or played an important role in maintaining safety procedures at the DZ in question. Only one interviewee had been involved in such proceedings, and he recounts the impact of these events:

> I've had to go to court a bunch of times . . . as an expert witness to give testimony and, on equipment and procedures, and why I think it happened. I've had to go to the morgue

[7]For example, skydiving contacts informed us that charges of criminal negligence causing death were laid against a DZO in the case of a tandem fatality in Western Canada in the late 1990s.

> twice and physically cut the gear off a corpse and try and work out what was wrong with the equipment and what caused the fatality. Fuck man, that, oh, that hits you. And standing up in court, and being asked by a judge, and there's people crying all around about, and you're at a fatality inquiry—''why did this person die?'' ''Are you the senior instructor on this drop zone?'' ''Are you responsible for safety at this drop zone?'' ''Yes, yes, yes.'' ''Why did he die?'' ''Because of this, this, and this.'' ''Is there anything you could have done personally to prevent this?'' ''No.'' ''Is that your opinion?'' ''Yes.'' ''Prove it.'' Boy, you wanna' make sure you're qualified to say what you say, and have the confidence in yourself to mean it... But boy, oh boy, I sure grew up in a hurry when I had to stand up in a courtroom for the first time... Boy, was I a safer skydiver after that. (Michael)

This jumper points to the change in his own edgework practices after going through the experience. His words highlight that it was not the fact of the inquiry itself that prompted this reflection; rather, it was the difficulty of the process for him personally, and how it forced him to look carefully at his understanding of the hazards of the sport. For those who have not had to go through such an experience, a primary impact an inquiry has is in terms of generating negative publicity for the sport. Jumpers certainly wish this was not the case, and cite it as a reason for what they call people's misperceptions about the sport. It appears not, however, to have a significant bearing on their skydiving behaviors.

'Other' Actors

In the interviews, skydivers point to the ubiquitous 'outside' opinion that skydiving is inherently dangerous. In almost every interview, jumpers suggested that they have repeatedly heard some variation of ''why would you jump out of a perfectly good airplane?'' during their jumping careers. Interestingly, very few people mentioned important others as sources of this type of policing. Instead, jumpers suggested that they hear this line of argument from ''the general public''—acquaintances who happen to find out that they are skydivers. Only two of the interviewees, in fact, mentioned people reasonably close to them as sources of this opinion.

Damian, for instance, suggested that his parents ''really don't understand it, they . . . think it borders on the suicidal.'' He does not ''think they understand, or they can't appreciate an adrenaline rush. It's too out there for 'em, it's too, I guess too dangerous, or so it's perceived.'' Sophia, meanwhile, described an encounter with a former boss: ''he came into my office and said 'You have just got to take up another sport. We just can't live with wondering whether you're going to come back to work after the weekend or not.' And I just laughed, because his perception is just not the way it is. If I thought I was gonna' die, I wouldn't go and do it.'' For Sophia, a very experienced jumper, these comments are easy to dismiss because they are based, in her view, on inaccurate perceptions. She feels she understands the edge well enough to have a more accurate understanding of the risks of the sport.

It seems reasonable to suggest that family and close associates are motivated to comment on skydivers' activities out of concern for their (skydivers') well being. As the previous excerpt illustrates, however, most experienced jumpers easily dismiss this kind of policing behavior, arguing that non-jumpers simply do not understand the parameters of the sport, and therefore are in no position to judge whether it is hazardous or not. Remarks like ''why would you jump out of a perfectly good airplane'' often fall on deaf ears, we suggest, because they tend not to speak to the experiences of veteran jumpers. Neophytes, for whom the simple act of exiting the airplane constitutes edgework, may be more affected by comments like this. Most experienced jumpers, however, have wandered farther out on the edge, so this kind of question misses the mark. If someone were to ask a jumper with 500 jumps whether he executes high-performance landings, leaves himself ''outs'' on his landing pattern, and so on, this may be cause for more introspection. Jumpers occupy different areas of the edge, depending on their expertise and experience, a point lost on most non-practitioners. It is for this reason, we suggest, that fellow jumpers have more influence as sources of policing behaviour, a point we elaborate below.

Only one interviewee mentioned a non-jumper attempting to influence *how* she engaged in edgework as opposed to whether or not she did it at all. Anna described the scenario

when she had the opportunity to buy an AAD, but felt she couldn't afford it:

> and [my] dad said ''are you gonna buy it?'' And I said ''well, I don't have the money right now,'' and he goes ''I'll tell you what, . . . I'll lend you the money. It makes me feel better.'' I said ''whatever . . . it's mechanical, . . . it's not gonna' override my brain, . . . it will if my brain's not functioning.'' I said, ''It's a backup. I'm not gonna' trust it.''

In this case, this policing behavior influenced how Anna engaged in edgework, but only insofar as she employed an extra piece of safety equipment. She still felt that her father did not understand the parameters of the sport, and agreed to the arrangement largely to placate him. It is quite likely that jumpers are subject to policing behavior from family, co-workers, etc., more frequently than is reflected in our interview data, if the first author's experience is any indication. Jumpers encounter these opinions so frequently, however, and dismiss them so easily, that they likely do not consider them an important source of control.[8]

Jumpers who are romantically involved with non-jumpers experience a different kind of pressure.[9] Often, when a jumper becomes involved with a ''whuffo'' (a slightly derogatory term skydivers use to describe non-jumpers), a power play of sorts ensues, with the new partner insisting the jumper spend less time at the DZ and more at home. In fact, jumpers often express some concern when another skydiver becomes romantically involved with a non-jumper, worrying that this jumper might withdraw from the sport as a result. After reading a draft of this article, one jumper referred to the strain between jumping and non-jumping spouses as ''Skydiving Induced Divorce Syndrome.'' He remarked that since his marriage, numerous people have expressed to his wife their surprise that she 'lets' him continue to jump, and does so herself. He suggested: ''It seems that it's a widely held belief that

[8]Our data suggest that one form of this 'external' policing may be more difficult to dismiss. Several women (and some men) noted that there is some pressure for women not to take up or stay involved in skydiving, particularly when they become mothers. This is clearly tied to broader ideas of femininity and motherhood, and, like the subject of high-performance landings, is deserving of a detailed investigation of gender and edgework.

[9]Because there are many more men than women in the sport, it is more often men who end up in romantic relationships with non-jumpers.

only single people (people who don't have anything to live for?) do these sorts of things'' (Doug, email communication, March 2005). In this case, both partners are skydivers, so this has not been an issue. The kinds of comments friends and acquaintances have made to Doug's wife, however, point to the kinds of struggles that sometimes ensue in the case of unions between jumpers and non-jumpers.

Generally, the pressures outlined above seem not to be a major deterrent for the skydivers in our sample. There is likely, however, an element of selection bias at work here. There may be a number of skydivers (or potential skydivers) who back away prior to crowding this edge in the same way that more veteran skydivers tend to.

SKYDIVERS: POLICING OTHERS' EDGE

Institutional Policing

At a policy level, national associations and DZOs police the ways skydivers engage in edgework. They permit or prohibit particular behaviors, though the degree to which these constraints are enforced may vary from place to place. National associations, such as the U.S.P.A. and the Canadian Sport Parachuting Association (C.S.P.A.), set out safety guidelines that limit skydiving behaviors, in theory at least. In the U.S. and Canada, these are called Basic Safety Requirements (BSRs). BSRs outline such things as minimum competencies for progression and participation in particular kinds of skydives, maximum winds for jumping, and minimum distances from hazards for landing areas (U.S.P.A., 2005). These requirements are not considered as law in skydiving, but rather as a basic minimum set of guidelines for safe practice. Moreover, the policing of these BSRs takes place, by and large, at the DZ level. Only in extreme cases does an association get involved in an official capacity in sanctioning individual skydivers who have contravened one or more BSR. Clearly, these guidelines help to shape the edge for skydivers in particular ways.

At the DZ level, the DZO and/or the Drop Zone Safety Officer (DZSO) monitor skydivers' behaviors and intervene as needed. The first sense in which this is done is through setting particular guidelines for or restrictions on skydiving

behaviors. At a small number of DZs, AADs are mandatory not only for students, but also for experienced jumpers. This is the DZO's prerogative, and other jumpers generally respect this position. Some jumpers feel as though these are unnecessary measures, and inhibit their freedom of choice with respect to riding the edge. While almost every interviewee expressed opposition to the idea of AADs being mandatory at the association level, several noted that they understood it at the DZ level. After all, it is the DZO who is on the line in terms of liability should 'an incident' occur. Other DZ policies have to do with particular behaviors. For instance, at many DZs, the edge of the landing area is called the ''beer line,'' as any jumper landing too close to the packing area is in violation of DZ safety procedures, and must buy a case of beer for the DZ as a penalty. While the location of this boundary is set by association BSRs, its enforcement is the purview of DZOs and DZSOs.

On some occasions, a BSR is not the issue. As high-performance landings have become more prevalent, for instance, DZOs and DZSOs have, to some extent, taken on the role of policing this behavior when it is done poorly. Generally, this involves observing skydivers' landing approaches, and offering suggestions where appropriate. Most often, it is a case of a relatively inexperienced jumper who is in the process of learning how to do high-performance landings safely:

> Today, Steve, who has about 300 jumps, performed a high-speed downwind landing along the beer line. The drop zone owner walked out and met him, and explained to him that his hook turn was poorly performed, and that he risks seriously injuring himself or others if he continues to fly his canopy this way. (August 1998)

Though Steve had not broken a formal policy, he had initiated his hook turn too low, leaving himself virtually no margin for error. The kind of policing to which he was subject is analogous to a verbal warning that a police officer might issue for a minor speeding offence. Just as a driver can't drive at the speed he or she might prefer, neither can this kind of edgework be performed as a participant might like. If the jumper in question does not correct the

problematic behavior, this policing may progress to more concrete sanctions, including possibly ''grounding'' this person for a length of time.

Other Skydivers

The most pervasive form of policing the edge in skydiving is when jumpers monitor the edgework of other jumpers. Skydivers expect each other to make smart choices and to handle themselves well under pressure. Chris, for instance, said ''I truly believe that some people react better in bad situations than others... There's definitely some people that shouldn't be in this sport. The line I heard is 'if at first you don't succeed, don't take up skydiving.' That's probably truer than you'd think.'' This is not, however, an idle expectation. Jumpers pay attention to who is doing what in the sport, often subtly police the edgework of others, and sometimes explicitly express concern to others about the behaviors. When someone exhibits a serious lack of awareness or ability, or lacks confidence in their own abilities, other jumpers take notice. In extreme cases, others may even intervene when they perceive that someone is a danger to her/himself imself or to others.

One relatively common way that experienced skydivers police the edge is in the way they pass on knowledge to less experienced jumpers. Many skydivers who have been around for a while consider it the responsibility of senior jumpers to keep an eye on junior jumpers and step in if they see or hear something that is cause for concern. Tim, for instance, a very experienced skydiver, recounted the story of Christine, a relatively inexperienced jumper who ''went in'' (jumpers refer to dying as a result of skydiving as ''going in'') some time before the interview. He was upset that another experienced jumper had not stepped in when Christine said something the night before her death that indicated that she did not respect the potential hazards of the sport:

> When Christine, the night before she died, can sit around the campfire saying ''oh, I'm never going to have a reserve ride, never going to get myself in that situation,'' that's something that some senior jumper should have been taking her aside and slapped her upside the head.

While other jumpers may not have taken the direct approach Tim advocates, many would have taken this as an opportunity to explain to a junior jumper that one must always be prepared for something to go awry so that one is equipped to deal with it. This can be seen as an admission by senior skydivers that there is a degree of chance involved in skydiving—but that senior skydivers are far more aware of how to capitalize on both skill and common-sense as a means of reducing chance and gaining control.

Senior jumpers on the drop zone, and particularly coaches and instructors, are especially diligent about policing the edge in the case of novice skydivers. They monitor jumpers' progression not only in terms of skill development, but also with respect to their abilities to maintain control in the face of chaos. Minor transgressions may be cause for repeats of particular skydives prior to being progressed to the next level. Serious mistakes, however, may be subject to more serious sanctions. During the first author's time in the field, an illustrative situation arose with a particular student. This student exhibited excellent body position and technique over the course of his first several jumps, but when he experienced a relatively minor problem on his seventh jump, he failed to make any attempt to activate his main or reserve parachute. His AAD fired to activate his reserve, saving his life. Several instructors, including the author, consulted on the matter, and concluded that they would not allow this student to continue to jump at this DZ. He had exhibited a critical lack of awareness and action. No matter what happens in a skydive, they agreed, you have to make an attempt to activate a parachute. Anyone who does not make that attempt is simply not cut out for this sport. In other words, they are not able to perform this type of edgework: they do not have the ''right stuff.''

The most pervasive way that skydivers police the edge is through regular observation of other jumpers' behavior. They pay attention to what kind of gear others are jumping, the kinds of skydives they are doing, and how skilled they are at handling themselves in freefall and under canopy. One lengthy fieldnote excerpt illustrates this phenomenon particularly well. It is taken from the author's return to the field following a lengthy layoff from the sport:

> There was an interesting contradiction today. On the one hand, jumpers I haven't seen in a while were very keen to see me ''in the air'' again — so much so, in fact, that I had numerous people offer to lend me various pieces of equipment, as I no longer have my own. On the other, a number of people watched me quite closely. In a sense, it was like being a student again. Not having jumped for over four years, I am considered very ''uncurrent.'' As a result, a number of people took a keen interest in what kinds of jumps I was doing, and with what equipment. Andrew, for example, having achieved his goal to get me to do a skydive, insisted that I do a coach jump of sorts with him so that he could verify that I could ''handle myself'' in freefall and under canopy. He went to some length to see that I remembered my emergency procedures and was familiar with the landing area, despite my having jumped at this drop zone several times in the past. After insisting I open (deploy my parachute) at a high altitude on this first jump, he basically 'let' me do whatever I wanted. Several others, meanwhile, were very interested in the gear I was using, with some suggesting that perhaps I should be flying a bigger canopy at first since I was ''rusty.'' Once Andrew was satisfied that my skills hadn't stagnated too much, however, he became my co-conspirator in the sense that he loaned me his rig with a Stiletto 120 main, a very high-performance parachute considering my layoff from the sport. He even made it a point of keeping this information from his partner, as he knew that she wouldn't approve.

This excerpt illustrates two important issues with respect to jumpers policing the edgework activities of others. First, other jumpers, while they had an interest in seeing the author jump again, also recognized that his skills at negotiating the edges of freefall and canopy flight had undoubtedly eroded in his time away from the sport. They tactfully reminded him of this and ensured that he did not attempt to go further out on the edge than he was capable of handling. Second, the fact that several jumpers, most notably Andrew, relaxed this policing behavior after seeing evidence of the author's ability to maintain control on the edge, illustrates that this phenomenon is tailored to particular jumpers and situations. All else being equal, a jumper with a history of poor performance on the edge is much more likely to be subject to this

kind of social control than someone who has previously demonstrated the ability to effectively negotiate the boundary between chaos and order.

High-Performance Landings

Until relatively recently, a major portion of skydiving fatalities were the result of someone, for one reason or another, failing to activate a parachute in time for it to inflate (Sitter 2003:30).[10] In recent years, with improvements in equipment technologies and increased use of AADs, the numbers of such fatalities has decreased dramatically. During the same period, however, serious injuries and deaths from what many jumpers call ''pilot error'' have drastically increased (Hart and Griffith 2003). Prior to the early 1990 s, fatalities due to landing problems were very rare, usually resulting from an attempt to avoid an obstacle in the landing area (Sitter 2003:33). Largely due to the development and popularity of high-performance parachutes, this category now regularly accounts for a larger proportion of yearly skydiving deaths than any other single category (IPC 2003; Sitter 2003).[11] In light of this trend, the policing of high-performance canopy flight is perhaps the most conspicuous form of social control in the skydiving realm.

The most striking way in which jumpers police the edge is with respect to the kinds of parachutes jumpers fly, and the ways they do so. Jumpers express some ambivalence about the place of ever smaller and faster canopies in the sport. Because these high-performance canopies are so unforgiving of mistakes, manufacturers recommend that potential buyers have a certain amount of canopy-flying experience before purchasing such an item. Depending on the specific canopy, manufacturers may recommend having over a thousand jumps before flying their product. Manufacturers are cognizant that high-performance canopies make the edge more difficult to negotiate by requiring greater amounts of skill

[10] *Parachutist* is an internationally distributed publication of the U.S.P.A., and is widely considered one of the leading skydiving publications. This article draws on American data. The trends described, however, may be generalized to other countries.

[11] The other categories are equipment malfunctions, collisions, no pull/low pull, reserve parachute problems, and other. The ''other'' category captures those fatalities which are not attributable to a specific category.

and experience than lower-performance canopies. Not only do jumpers take this into account when making their own risk management choices, but they scrutinize the choices other jumpers make about the edge.

Jumpers generally know what kind of canopy others fly, and the perception among some is that ''smaller is cooler.'' After a certain point, however, the ''coolness'' of having a small canopy is debatable. If one is perceived as too inexperienced or unskilled for a particular canopy, or if the canopy is so far on the leading edge of technology as to be unfamiliar to jumpers, experienced jumpers take note, and experience a sense of anxiety. Although some who fly smaller canopies may perceive themselves as inherently capable, others may view this choice as evidence of either over-confidence or stupidity. If someone with 200 jumps shows up with a Stiletto, or anyone shows up with a 69 square foot Icarus Extreme (one of the smallest and fastest parachutes on the market), people notice, but the message ''what a cool canopy'' is accompanied by ''what are you doing jumping that thing?'' Sophia, with over 1000 skydives, points out that for some people, these high-performance canopies are very appealing. She notes, however, some of the worries she has as these parachutes become increasingly prevalent:

> [High-performance canopies have changed the sport] positively in the performance for people who like to fly their canopies, . . . but negatively in that the forward speeds have just increased so much that it's making it, it's causing a lot more accidents on opening and on landing than have ever happened before, that I know of, in the history of skydiving. It used to be that opening collisions were just about unheard of. And landing, I mean, how could you hurt yourself with a big parachute? Unless you broke your ankle from a round [parachute], you know, it was pretty tough to hurt yourself. Those canopies, the canopies were very forgiving. But now, people can kill themselves because of the high performance of the wing over their head.

Sophia and others express concern about the shift that they perceive in the ways edgework is being done since the advent of high-performance parachutes. Jumping out of an airplane, with all the attendant risks of freefall, is one kind

of edgework with which all jumpers are familiar. The edge of high-speed canopy flight, however, is a relatively new one, and there is a wide range of ways to fly one's parachute. While this represents a certain degree of freedom, this freedom is tempered by uncertainty.

Skydivers are well aware that, in order to manage these canopies, one must have a tremendous amount of experience and skill with a parachute. Even when this is the case, however, jumpers worry when they feel that someone is not doing all they should in order to successfully negotiate the edge. Anna, for instance, mentioned one jumper in particular about whom she and others worry:

> Nick scares me. . . . I'm just waitin' for the day that he becomes a statistic. Because he's getting smaller and smaller canopies, and he's doing a lot more radical things with them. And it's starting to worry me. Nick is a very experienced skydiver, he's got very good canopy control, great pilot. The only problem is now is Nick isn't jumping as much as he used to. He's maybe out at the drop zone once a month now. . . I'm just waiting for him, because he's not flying the canopy as much as he used to, there's such a small margin of error for him right now. And, because he's not as current, it's gonna' happen. The ground's gonna' jump up and bite him.

Anna (and others) took note when this jumper started doing fewer skydives, and speculated that his ability to negotiate the edge of canopy flight might be compromised as a result.

In the case of jumpers who have shown particularly poor judgment, others will occasionally intervene in an effort to correct particular behaviors they see as detrimental to effective edgework:

> I can remember yelling at Evan the one time he came in and bounced across the ground about three times . . . You know, ''are you OK?'' ''Yeah.'' ''You stupid son of a bitch! How many times are we gonna' have to tell you? You can't be doing those bloody hook turns!'' Because he's one of these guys that, he's never gonna' learn, he's always got to be pushing . . . (Chris)

The problem Chris had with Evan is not that Evan performed high-speed landing maneuvers, but that he failed to

maintain control while doing so. In the opinion of Chris and several other experienced jumpers, Evan consistently attempted landings that were too high-performance for his experience and expertise. Evan's behaviour was redefined by his peers as falling outside the realm of edgework and, rather, within the realm of recklessness. The balance between control and chaos appeared to Evan's peers as weighted far too heavily on the side of chaos for their comfort—despite Evan's own apparent comfort with his performance.

In addition to suggesting that they engage in policing behaviors themselves, some experienced jumpers explicitly acknowledged that they are aware of and respond to the policing behaviors of others. Jack made this point the most clearly when he said:

> If no-one's telling you you're out of control then more than likely, you're not. If your closest friends are telling you you're out of control, then more than likely, you are. I mean, I know, for me, I've had on one or two occasions about specific items, I've had my friends tell me things that have caused me to reflect. I do know that one of them was after one of my other friends hook-turned into the ground. Well, everyone was after me to back off my hook turns. . .

Not everyone responds in the way Jack describes here. In fact, the jumpers who cause the greatest worry for other skydivers are those who do not heed the advice or warnings of other jumpers. As skydivers crowd the edge, they are bound to find themselves in situations where they are at risk of losing control—of falling off the edge, as it were. Practitioners who do not respond well when other jumpers point this out to them, are those other jumpers refer to when they call someone a ''fatality waiting to happen'' (Tim). Clearly, edgework is a negotiation by individual actors, in particular in terms of their own assessments of their skill levels, but it is also a negotiation among those who participate in the same types of activities.

It is not only those jumpers who regularly perform hook turns themselves who notice other people's hook turn technique. Senior jumpers who understand the nuances of high-performance landings feel they also are in position to observe and comment on the edgework of others. In fact, it

is common to see activity on the drop zone slow somewhat as a load of jumpers approaches the landing area. Jumpers on the ground watch as those in the air set up their landings, and often critique the performance of those coming in to land. This kind of scenario is described in the following field-note excerpt:

> I was hanging out in an area with a number of fairly highly experienced jumpers, few of whom fly their canopies aggressively. At the end of the day, on the last load, the last person to approach the landing area initiated a very aggressive maneuver for landing (a 270° hook turn). As soon as he started it, several people in the area made comments like ''don't screw up the whole boogie with a stupid move!'' Once it became obvious that he had performed a successful hook turn, people relaxed, saying things like ''Oh — someone who knows what he's doing. We won't applaud that, but we'll say it's really cool.'' (July 2004)

This excerpt illustrates a number of interesting things about the policing of canopy flight. First, it highlights the draw of high-performance canopy flight for many jumpers, even for those who choose not to engage in such practices. High-performance canopy flight is generally agreed to be one of the best examples of edgework as controlled chaos within skydiving. Second, it illustrates that jumpers monitor the ways other jumpers negotiate the edge. Third, it points to the notion that what concerns jumpers engaging in this monitoring behavior is not the fact that some jumpers push the edge in extreme ways, but that they do so without the requisite awareness and skill.

These observers were extremely concerned when this jumper initiated the maneuver because they did not know who he was ('can he handle this?'), and recognized that he had left himself a miniscule margin for error. When it became obvious, however, that he had successfully executed the move, they not only relaxed, but became quietly appreciative of his skill. Even their choice not to applaud the maneuver was a way of policing the edge. They did not want to encourage other jumpers without as much skill and experience to attempt the same maneuver. This suggests an implicit understanding that most jumpers cannot successfully

negotiate the boundary between chaos and order at this point on the edge.

DISCUSSION AND CONCLUSIONS

In this article, we have suggested that one dimension of the edgework model that has thus far received too little attention is the interactional setting within which edgework is undertaken. To date, little research has focused explicitly on the institutional and interactional forms of social control edgeworkers encounter as they explore the boundary between form and formlessness. It is important not only to theorize institutional explanations for how people come to engage in edgework, but to explore the institutional settings within which they negotiate their chosen forms of edgework.

Researchers have documented that a sense of control is central to the edgework process. We suggest, though, that the centrality of control extends beyond individual practice in this social arena, as outsiders and experienced practitioners exert sometimes subtle and sometimes conspicuous forms of social control constraining skydivers' activities. Government agents place formal limits on skydiving operations, regulating certain elements of the day-to-day operations of a DZ. Non-jumpers, meanwhile, may subtly encourage jumpers to back away from this particular form of edgework, though this generally falls on deaf ears in the case of jumpers already immersed in the sport. Jumpers seem to put very little weight in any attempts at social control by those who are not familiar with the sport, although they appear, for the most part, unable to avoid these attempts at control by outsiders. They have little if any direct contact with government agents, and dismiss the opinions of non-practitioners out of hand, suggesting that they do not know what they are talking about. It may be that this dismissal is one more way of asserting control in their edgework environment. The position that only those who understand the edge are in any position to make observations about it necessarily grants them special status, and constrains the ability of 'outsiders' to exert any control over their skydiving activities. One exception to this pattern of dismissal is the power-play that may result when a non-jumper becomes romantically involved with a jumper. National associations and DZOs, for their part, place limits on skydiving activities

in terms of the policies they put in place. This institutional form of social control is an important one, as DZOs and DZSOs have the authority to sanction skydivers for contraventions of DZ policy, including such measures as preventing skydivers from manifesting for a jump.

Our analysis reveals that the most pervasive—and in many ways the most meaningful—form of social control comes from fellow edgeworkers who engage in policing behaviors when one does not effectively manage oneself on the edge. Jumpers monitor each other's edgework with respect to equipment choices and the kinds of skydiving behaviors in which jumpers engage, and occasionally intervene to point out the ways in which one might negotiate the edge more effectively. This is particularly pronounced, we suggest, in an historical period in which there is a trend towards skydivers being seriously injured or killed not because of an equipment malfunction of some kind, but because of a poor decision while negotiating the edge of canopy flight. In this context, jumpers are decidedly aware of the equipment choices and behaviors of other jumpers, especially with respect to canopy flight. If a particular jumper seems in danger of losing control on the edge, this awareness escalates to gentle intervention, and continues to escalate so long as the jumper in question continues to exercise what others perceive as poor judgment. Beyond its effect on the jumper whose behavior is under the microscope, this environment of monitoring filters through to other jumpers. As Jack pointed out when he suggested that he is probably fine if his best friends are not telling him that he is out of control, one cannot help but be aware that one's behaviors are subject to monitoring. This does not mean, of course, that all jumpers tow the line in light of this social control. As one would expect, some jumpers learn their lesson, as it were, while others insist that they are in control irrespective of what others think. If, as some theorists of edgework suggest, individuals are drawn to voluntary risk activities in order to exercise freedom and creativity, it should come as no surprise that some practitioners are resistant to attempts at social control.

Our analysis suggests that skydivers employ somewhat 'black and white' interpretations of their own and others' skydiving abilities: You either have what it takes or you don't, you are in control or you aren't. They recognize that

the edge exists at a different location for each practitioner, but quickly sanction those who wander off their edge (wherever it may be for them) towards total chaos. The strength of this distinction between control and chaos, however, flies in the face of the negotiated nature and experience of edgework. Determining the exact edge is, for each individual, a matter of negotiation. Control is not simply a product of skill and experience, nor is chaos necessarily a product of lack of skill and inexperience. Edgework involves far more negotiation among participants and is less self-determined than these black and white descriptions suggest. Rather than singularly exploring the limits of one's ability, the limits of control and chaos are the result of negotiation by many. Recall that Evan, who appeared confident in his abilities, was told in no uncertain terms that he was not performing at the appropriate skill level. The interactional setting appears, in many cases, to name both chaos and control and to define the edge for participants. Far from edgework being a solitary pursuit, our findings suggest that one's edge is a process of negotiation. Each individual must negotiate between his or her own set of skills, experience and desires with particular tasks he or she sets out to perform; negotiation occurs both directly and indirectly with skydiving peers, with much less negotiation with outsiders. The edge that one figuratively 'works' in edgework, in skydiving at least, is very much a social enterprise.

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