Role Conflict in Crises of Limited Forewarning*

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Role conflict is the direct consequence of multiple group memberships and their associated responsibilities. It arises when the role expectations associated with one role, or role-set, makes it realistically impossible for the individual to fulfill the responsibilities associated with another. In crisis situations the potential for role conflict is particularly acute for emergency responders. These front line emergency responders are expected to lead the mitigative action of the community, yet their responsibilities as family members, and often leaders in their social network must also be met. This research examines the nature of role conflict in disasters of limited forewarning—the tornadoes of March 28, 1984, in North and South Carolina. The emergency management implications of role conflict in such instances clearly represent an applied research setting. They assess the problem as a serious one, and yet report that such conflict seldom disrupts community response. The examination of the patterns of role conflict present unmistakable emergency management implications, and enhancement of our knowledge of role structures.

INTRODUCTION

Role conflict has been conceptualized as the direct consequence of multiple group memberships and their attendant duties and responsibilities. It arises when an individual is subjected ". . . to conflicting sets of legitimized role expectations such that complete fulfillment of both is realistically impossible" Parsons 1951, p. 280). For emergency officials during times of crisis the potential for role conflict is particularly acute. The resolution of these conflicts between loyalty to the family and other groups, including the community "at large," present significant disaster mitigation problems (Killian 1952). Emergency personnel are expected to lead the community's mitigative action, yet their duties and responsibilities as family members and community members, must also be met. While during relatively normal times multiple roles are frequently carried out ". . . without having to make a choice between basically conflicting group loyalties," in periods of relative crisis ". . . individuals may find that it is impossible to serve two masters, to act in two roles" (Killian 1952, p. 314).

Role conflict in times of crisis is characterized by a compression of role responsibilities in the limited time frame, imposed by the disaster agent. This research addresses role conflict among those people most likely to have experienced its effects. By focusing on emergency personnel during emergency periods brought on by crises of limited forewarning, the emphasis is on critical situations where potential consequences are maximized. Limited forewarning allows role conflict to be observed in situations where little impromptu planning is possible. Hence, role conflict in crises of limited forewarning is tightly coupled to behavior patterns exhibited during emergency response.

ROLE CONFLICT AND ROLE STRAIN

Among emergency personnel role conflict generally describes a class of events characterized by compression of responsibilities associated with multiple roles in a period of crisis. Although occurring somewhat rarely, the most severe form(s) of role conflict are characterized by the abandonment of some roles in favor of others (cf. Quarantelli No. 49). However, the more frequently occurring types are more aptly described as role strain. The *impossibility* of fulfilling multiple role expectations seems to imply that some role expectations will not be met (cf. Parsons 1951). Felt difficulty in fulfilling role expectations (cf. Goode 1960) seems to be a necessary, but not sufficient, precursor to the unmet behavioral expectations associated with the more severe forms of role conflict such as role abandonment (Dynes 1984; Mileti 1985). Hence, role conflict results in unmet behavioral expectations, while role strain need not.

In the initial conceptualization of the problem, Killian (1952, p. 311) concluded that the great majority of people involved in dilemmas of loyalty created by conflict between roles associated with primary and secondary groups, ". . . resolved them in favor of loyalty to the family or, in some cases, to friendship groups." Disaster research seemed to confirm that role conflict was resolved in favor of primary group roles (Fogleman 1958; Forum and Nosow 1958). Even the protective functions of the family discussed by others (e.g. Mileti et al. 1975; Bates et al. 1963; Prince 1920; Thompson and Hawkes 1962; Barton 1969; and Quaranteli 1960) seem to confirm the significance of the organizational implications associated with delayed and abandoned behavioral expectations. For example, Moore (1958, p. 254) found until the family was united "...everything else was postponed and often reported to have been insignificant." Killian (1952,311) essentially argues that if emergency personnel are preoccupied "...with their own primary groups....," the result could be "...the atomization of the community into small un-coordinated groups..." which would at best delay, and at worst disrupt, effective community response to crisis situations.

Even Killian (1952) recognized these severe consequences failed to materialize. Mileti (1985) describes the implied social process as: (1) disasters create the necessary conditions for role conflict among emergency personnel, which in turn (2) elicits the abandonment of emergency roles; when emergency roles are abandoned, (3) the community disruption associated with the disaster is augmented.

A series of issues are important modifiers of this implied social process. For example, to what extent do disasters of various sizes create the potential for role conflict among emergency personnel? Are emergency services workers equally affected? What types of emergency personnel are most affected? How does social integration, in the family and among emergency service workers, affect role abandonment? If role abandonment occurs, is there recognition that the roles can be adequately filled by others? While the stark implications of behavioral role conflict have not been uniformly or consistently observed in disasters, the problem elicits considerable concern (Killian 19852; Fritz 1961; Quarantelli No. 49; Dynes 1970, 1984; Drabek 1984; Bates et al. 1963).

Conceptually, both role conflict and role strain rest on a premise of role attenuation, suggesting the dissipation of individual reserves in fulfilling multiple roles. role attenuation posits the premise that personnel time and energy are finite, and filling role expectations expends those valuable resources. Hence, all role expectations cannot be met, particularly in crisis periods when many role obligations are

compressed in a limited time period, leading to role abandonment in the extreme case (Merton 1968; Goode 1960; Killian 1952; Parsons 1951). Yet neither role conflict or role strain seem to recognize the expansion of personal reserves through the rewards associated with multiple roles—role accumulation (Marks 1977; Sieber 1974; Homans 1950). Role accumulation posits the premise that fulfillment of role expectations has associated rewards, which allows (1) accumulation of role privileges, (2) enhanced overall status security, (3) greater resources for status achievement, present and future role performance, and (4) ego gratification and personality enrichment (Sieber 1974). Role accumulation places emphasis on the expansion of human energy through the fulfillment of role expectations (Marks 1977; Durkheim 1975, 1953), which provides for optimum community response to disasters.

One fundamental issue concerning role conflict and role strain among emergency personnel centers on the extent and nature of role conflict in emergencies. Even the conceptual definitions of role conflict (e.g. Killian 1952), role strain (e.g. Goode 1960), structural strain (e.g. Drabek 1984) and role abandonment (e.g. Quarantelli No. 49; Dynes 1984; and Mileti 1985) suggest that the nature of the problem varies. This variation may be related to the type of crisis, the specific role in the emergency response, the integration of the individual in that role, amount of forewarning, and amount of available personnel.

Other critical issues concern the nature of implications, if any, for emergency response. Is role conflict a serious issue in terms of the potential for disruption of community response? Does role strain engender significant stress among emergency personnel? If so, to what extent does this alter the effectiveness of emergency personnel? What proportion of emergency responders are affected by conflicting role expectations? If role conflict occurs, what is the magnitude of possible delays in reporting to or away from duty station? What situational and structural conditions seem to lead to role conflict and its resolution? The limited data of this research bears directly on these important issues of emergency management.

METHODOLOGY AND DATA

Emergency response to a series of tornadoes on March 28, 1984 continuing for nearly six hours and extending over 300 miles of North and South Carolina, provides the data for this research.

[The storm began] Monday, March 26, 1984, as] a low pressure system...in West Texas. As it crossed the Midwest it increased in strength. The hot, dry air from the southwest gathered moisture from the Gulf of Mexico and met with cold dry air from the interior of the continent, creating an unstable air mass. By the morning of Wednesday, March 28, heavy rain and strong winds were being experienced in Georgia. By the time the storm reached South Carolina, conditions were ideal for the creation of tornadoes. The National Severe Storms Forecast Center of the National Weather Service issued its first tornardo watch at 2:15 p.m. Record low pressures were recorded as the storm passed, accompanied by severe thunderstorms, heavy rain, and hail.

The first tornado was reported by a South Carolina state trooper near Ware Shoals, about 20 miles from the Georgia border, at 4:35 p.m. The Columbia office of the National Weather Service issued a tornado warning at 4:45 p.m.

*Between 4:35 p.m. and 10:50 p.m. the storm traveled northeast across South
Carolina and North Carolina, killing at least 57 people, injuring approximately
1,300, causing over $200 million damage, and leaving more than 3,000 people
homeless (Sparks 1985, p. 1).*

As with many tornadoes the available warning time was limited. Data supplied by
the National Oceanic and Atmospheric Administration indicate that severe storm
warnings were issued as much as 35 minutes before impact. However, tornado war-
nings were issued between 15 minutes prior to impact in Newberry County, SC, and 45
minutes after impact in Gates County, NC. Individual towns and municipalities
sometimes received a little better forewarning than the surrounding areas. For
example, Newberry, SC, received 23 minutes' forewarning, compared with 15 minutes'
lead time in the county.[1]

The four communities selected for post impact site visits were somewhat better off
than the counties at large in which they are located. Bennettsville and McColl, SC,
received tornado warnings 7 and 16 minutes prior to impact respectively, even though
Marlboro County in which they are located was warned 3 minutes after the first
impact. Maxton and Red Springs, NC, received a severe storm warning 15 and 25
minutes prior to impact while Robeson County as a whole received a severe storm
warning 15 minutes prior to impact of the tornadoes.[2]

Using a snowball approach, emergency personnel were queried concerning their
role(s) in the emergency response. In each jurisdiction the initial contact was with the
appropriate lead authority. In each state the lead authority concerning emergency
response is the Director of Emergency Preparedness. Emergency management officials
from the state office were interviewed concerning both their own experience and
appropriate contact people in the selected impact areas. Within the impacted areas the
initial contacts were interviewed concerning their own involvement in the emergency
response and the resulting potential for role conflict. In addition they were queried
concerning the emergency people in the community experiencing impact in their own
neighborhoods, or families[3]. By focusing our attention on emergency personnel most
likely to have experienced role conflict, because of their particular circumstances, little
valuable fieldwork time was spent interviewing emergency personnel with little role
conflict potential. Taken as raw frequencies, this approach over-estimates the extent of
role conflict among emergency personnel if interpreted as a representative sample, but
affords direct examination of role conflict and the study of its nature, when it occurs.
The extent of role conflict was then estimated by the respondents as a function of (1)
the estimated proportion of emergency responders experiencing role conflict, (2)
reported disruption of community emergency response, and (3) estimated seriousness
of role conflict as a general problem in emergency management and response.

The site visit of April 16-20, 1985, was coordinated with local officials to enable
them to spend sufficient time with the interviewer to discuss in some detail their ac-
tivities, without disrupting their ability to respond to the emergency. During the post-
impact site visit a total of 20 in-depth interviews were conducted with available
emergency personnel. The interviews were recorded with the permission of the
respondent; however, the respondents were assured confidentiality. All identifying
material contained in the transcripts was eliminated.

In addition, nearly 200 self-administered surveys were distributed in the area. Key individuals in each organization were asked to distribute the surveys to others in the organization who were not interviewed due to time constraints imposed by the site visit. Even though the final distribution process was not controlled and a self-administered mail-back instrument was used, 39 survey instruments were returned in the prepaid business response envelopes. Because it remains uncertain how many instruments were actually distributed to appropriate emergency personnel, the actual response rate may be significantly higher than 20 percent. The survey instrument provided opportunity for the respondent to describe their activity during the emergency and preimpact period. The open-ended response format afforded a parallel structure to the data provided in the described activities of the period and site-visit interviews.

In addition to these sources of data, two instances of role conflict were reported in the course of the in-depth interviews. These two cases were reported for people that were not able to be interviewed and no questionnaire represented the described instances. Hence, the reports were deemed significant and are subsequently treated as separate cases. A total of 61 emergency personnel at various levels of emergency response and from various emergency response organizations are represented.

FINDINGS

The often limited forewarning associated with tornadoes provides an emergency context characterized by a severe compression of role expectations in the immediate crisis period. Limited forewarning provides little time for emergency officials to make impromptu adjustments to existing disaster preparedness plans. The limited forewarning constrains preimpact communication among groups, which places emphasis on the individual's location at first warning and impact. Emergency responders' physical location and proximity to significant others, both victims and those socially related, at impact is directly related to the type of emergency response possible and the nature of any associated conflicting role expectations.

The character of role conflict was classified in terms of its general nature. First, role conflict is minimal when emergency personnel respond almost immediately with the emergency organization. This occurs when search and rescue squads, fire, police, and hospital personnel report directly to duty station. Another form of direct emergency response is comprised of people remaining unsure or unaware that the disaster has occurred. Their behavior is characterized by an initial searching for information concerning the disaster's impact, confirming the need for emergency response. Once the emergency role expectations are confirmed their behavior is characterized by direct emergency response. These two forms of direct emergency response characterize 52.5 percent of the emergency personnel represented by in-depth interview, self-administered survey, or description.

Second, the nature of role conflict is somewhat more problematic, when emergency personnel are partially united with their families. The role conflict may not be oriented toward the immediate family. For example the conflict may be comprised of response to the needs of the extended family, relatives, friends, and even other people the responder may be in contact with at the time of impact. These people may

be acquaintances and even strangers with whom the responder comes in contact prior to (often en route) coming on-line with the emergency organization. Such transitional conflict characterizes 27.9 percent of those represented.

Finally, people who are either on duty at the time of impact or make direct emergency responses, sometimes remain uncertain concerning at least some family members. This uncertainty is often resolved by an information search to ascertain the security and safety of families and others. Information searching characterizes 19.6 percent of the cases. This search for information regarding nonemergency group members may be quite intensive, usually for rather short durations, or somewhat casual, typically extending for a longer duration. The intensity and duration of the searching activity depends to a large extent on its success, and the perception of hazard faced by the family. The intensity is likely to be rather low and of limited duration, if the individual believes that their family is located in a relatively safe place (e.g. in an area not impacted by the disaster).

Location at Impact

Because of the evening hour of impact, the majority (59 percent) of the emergency personnel reported or implied they were with at least part of their family. Another 13.1 percent specifically reported being on duty with fellow coworkers, while 16.4 percent reported being with other people (e.g. neighbors, friends, classmates).[4] Physical location with the family at the time of impact reduces the need for family oriented communication. Of the 36 emergency responders physically located with at least part of their families at impact, 58.3 percent engaged in a direct emergency response, 33.3 percent experienced a transitional conflict, and only 8.3 percent engaged in information seeking activity. Among those 18 emergency responders not physically with their families, half responded directly, 16.6 percent experienced transitional conflict, and 33.3 percent engaged in information-seeking activity after assuming emergency duties.

Of the 32 people making a direct response to the emergency, 4 were apparently on duty at the time of impact, while 4 reported living alone, but the vast majority seemed to be located with relatively complete families or households. Hence, emergency responders located with their families or households know the security and safety status of their loved ones almost immediately, which allows them to report to duty station directly. However, there is a pattern of potential importance here: many emergency responders reported securing family prior to emergency response.

For example, in households where both parents have emergency roles and in single parent households providing for the security of families becomes a practical issue in reporting to duty station. While only a few people are significantly affected by such issues at this time, as our society is characterized by higher divorce rates, increasing age at first marriage and a growing proportion of dual career families these practical issues may require greater attention in the future. Emergency personnel are very likely to experience some delay in reporting to emergency duty station. These delays are often associated with problems along transportation avenues, breakdown of communication systems, and other practical problems, as well as role conflict. The average delay associated with direct response to emergency duty station is nearly an hour. Adjusting the associated delays to account for transportation problems and the fact that for some

the emergency roles were not clearly assigned (e.g. people arriving on their next shift, or as instructed by emergency coordinators in their organization), delays of under 10 minutes are typical.

Of the 12 people physically located with at least part of their families and experiencing transitional role conflict, 8 reported role conflicts with groups other than the immediate family (e.g. extended family and relatives, friends, neighbors and incidental contacts). Three of the remaining four consisted of incomplete families, and the fourth was directly impacted, requiring primary group attention prior to reporting for emergency duty. The average delay among all emergency responders experiencing transitional role conflict was 2 hours 15 minutes. However, one responder clearly did not recognize an emergency role and arrived on the next scheduled shift. Adjusting the average delay to account for this results in a typical delay of about an hour and a half. For those people with at least part of their family during impact, transitional role conflict resulted in a typical delay of one hour and 45 minutes, however the extent to which these people understood their emergency roles prior to impact is not clear.

There were 12 people who reported searching for information regarding loved ones after becoming involved in the community's emergency response. Three of these emergency responders were with part of their family at impact, 5 were with coworkers on the job, and 4 people reported being in other locations or exact details were not ascertained. The delays associated with this information searching averaged nearly 3 hours for those with part of their families, and sightly over 2 hours for those with friends or not reporting their location at impact. For the 5 people with coworkers at impact and engaging in searching activity, the typical delay was approximately 10 minutes. Managers should try to assist emergency personnel in this searching process, perhaps by organizing a voluntary association of spouses to contact other spouses and report the status of responder families periodically. Any assistance that can be arranged in advance to assure responder family interests are being served or provided for, will make individuals more comfortable and overall response more efficient.

Two cases of information-seeking activity were described by informants in the course of the site-visit interviews. Both cases reflect a mild form of temporary role abandonment. In one the emergency responder was on the scene in a shopping area that had been demolished. The individual spent several minutes or more establishing the nature of the situation, calling for assistance, requesting rescue and ambulance squads, and assisting where possible. When other emergency responders arrived on the scene, the first responder realized his son was in the demolished store. The other responders provided assurance they could handle the emergency command post while he located his son. His son was found, the nature of his injuries were determined, and he was transported to the hospital. The responder then returned to an effective emergency role. The entire incident took about ten minutes according to those on the scene.

In another case an off-duty emergency responder was described as reporting to and serving in her official capacity for over an hour during the immediate crisis period. This individual was treating victims and providing emergency assistance when they learned a nearby town where her daughter lived had been severely impacted. The responder received permission to leave, enabling her to locate her daughter. While it is not known exactly how long the responder served after realizing the potential impact

on her immediate family, it was clear that emergency personnel in her response area were abundant, and her departure was coordinated and controlled with the emergency organization leaders.

Not only do conflicting role expectations exist among emergency personnel in disaster situations, but their psychological and behavioral character varies considerably. While more than half the emergency personnel represented described little or no behavioral role conflict, and only two incidents of role abandonment of any kind were described, almost all reported a strain associated with conflicting role expectations. The examination of location of emergency personnel at impact and type of role conflict experienced highlights several important aspects of conflicting role expectations in disaster. The degree of psychological role strain is apparently related to the uncertainty regarding primary group safety. This uncertainty arises when emergency responders are separated from significant others at impact, when they have no information concerning their safety, and they are unable to obtain it. The perception of crisis in terms of the disaster's impact and consequences is integrally related to the perceived threat posed for loved ones. The recognition of threat is directly related to psychological role strain. For example, family members not thought to be at risk generate little role strain, but once loved ones are recognized as being directly threatened, role conflict is more severe. Role conflict seems to arise in an environment characterized by uncertainty concerning the welfare of loved ones. The perceived nature and uncertain consequences of the crisis provide the fundamental conditions for emergency personnel response.

The Extent of Role Conflict

Even though the reported role conflict appears significant (i.e. nearly 80 percent of those represented reported occurrences of role conflict) the research design does not allow any generalization concerning the magnitude of the problem. Because the nonprobability sampling design selected emergency personnel that were likely to have experienced role conflict, in terms of requisite conditions for its occurrence, the magnitude of the problem is overestimated by the proportion reporting conflicting expectations in the immediate crisis period. However, this overestimate of the problem of conflicting role expectations may represent an upper boundary in disasters of similar character. The extent of conflicting role expectations was ascertained in terms of estimated number of emergency responders who experienced its effects. Slightly over half the respondents (35 of 59) were able to make such estimates; however some respondents found it easier to describe the magnitude using words like all, most, and many. If these responses were given together with an estimate of the total number of emergency personnel in the area, the word responses were arbitrarily interpreted as proportions of the total (i.e. all, most and many became 100, 75 and 50 percent of the total reported emergency personnel respectively).

The average number of people estimated by these 35 to have experienced role conflict was between 29 and 30. Making the conservative assumption (that the 24 people who were unable to estimate the number of individuals experiencing conflicting role expectations observed no such instances) the average number of experiences is reduced to between 17 and 18. For the 24 people able to estimate both the total number of emergency personnel and the number experiencing role conflict, the average

proportion of emergency personnel experiencing role conflict was .362. Again assuming the 24 not able to respond are best represented by zero experiences, and comparing the total number of emergency personnel with those experiencing conflict, conflicting role expectations affect almost one in five emergency responders. Emergency personnel seem to believe role conflict is experienced by between 20 and 40 percent of their colleagues.

To what extent do conflicting role expectations (among as much as 20 percent of emergency personnel) affect community response?

Just over 50 percent of emergency personnel indicated role conflict did not affect community response to the March 24, 1984 tornadoes in their area. However, about 26 percent believed their community's emergency response was disrupted. Of the 47 people responding, more than 1 of 3 felt role conflict disrupted community response, while almost 2 of 3 believed it did not.

Just how serious a problem is posed by the existence of conflicting role expectations in disaster situations?

Emergency personnel were asked specifically, how serious a problem do conflicting role expectations present for emergency managers? The self-administered survey respondents were asked to rate the seriousness on a scale from 0-10, where 0 represents "not serious at all" and 10 represents "extremely serious." The average seriousness for the 37 people estimating it on this scale was 8.4. Eleven of those personally interviewed indicated the seriousness as "very serious," "somewhat serious," "not very serious," "relatively serious," "relatively minor problem," or "very minor problem." Making these responses compatible by assigning comparable scale values of 7, 5, 4, 3 and 2 respectively, reduces the mean seriousness to 7.4. Hence, conflicting role expectations are considered a very serious problem by emergency personnel having experienced a recent disaster.

Each of the 61 reported cases of emergency personnel activities was assigned a code that attempts to represent the seriousness of the described role conflicts. Like the scale used in the survey instruments, 10 represents "extremely serious" conflicting roles, but for this estimate it implied an extremely serious role abandonment. Zero represents an occurrence of no conflict associated with the most direct emergency response possible. Numbers above 5 were used to represent instances where behavioral manifestations were evidenced, and numbers below 5 represent psychological manifestations, which larger numbers indicating more serious instances than lower numbers. A series of checks and cross checks were used to verify the consistency of the coding. The average seriousness of described instances never exceeds 7, and averages 1.85. If the 13 cases characterized by the most direct emergency response possible (coded 0) are removed from the calculation the typical seriousness associated with an experience is 2.35. Hence, the experienced role conflicts are characterized by fairly low estimated seriousness. The disparity between what might loosely be termed the "perceived" and "objective" seriousness is profound.

One explanation would indicate emergency responders experience considerable felt difficulty in fulfilling multiple roles in disaster periods, but this seldom has serious behavioral implications. This seems to be consistent with other research (cf. Quarantelli No. 49; Mileti 1985; Dynes 1984; Drabek 1984; and Goode 1960)

suggesting psychological stress associated with conflicting role expectations may be quite high (but the behavioral implications are somewhat more rare). However, even the psychological stress associated with conflicting role expectations in emergencies may significantly affect performance, and a 1 in 5 proportion represents an issue of significance. The fact that the actual experiences were of little consequence may only be associated with the magnitude of the disaster relative to available personnel. This is a particularly important consideration when put in light of the emergency response personnel surplus often described in the responses. However, large responses from surrounding communities may comprise significant proportions of this surplus. This may mean disasters of greater magnitude and severity will result in more significant personnel shortages, making role conflict a more serious operational problem.

Integration and Experience

Emergency personnel share a common value system—among themselves as well as with close associates. This normatively reinforced system places considerable emphasis on the community. The sharing of a common value system arises partly because individuals choose to participate in emergency organizations (self selection). People tend to select voluntary associations that support their own underlying values (Heider 1946). Building on a foundation of self selection, emergency organizations often seek to further integrate their personnel by continuing activity during relatively normal periods. Because individuals choose to become emergency personnel primarily during periods of relative normalcy, self selection suggests an empathy with the common value system. Beyond this, organizations in general—and emergency organizations in particular—have a certain amount of "...control over the social composition of the membership" (Selznick 1957, p. 46). One mechanism of control consists of selectively recruiting members. Further commitment to the organization is assured by training of organizational personnel. This continued integration into emergency organizations serves to create relatively strong internalization of the common value system. These value commitments to the organization(s) tend to fix the internal and external institutional meaning in terms of their "...distinctive aims, methods, and role in the community" (Selznick 1957, p. 55). In short, the organization embodies a particular character when personal and organizational identity become fused. Character definitions are not made via some pledge of allegiance; they are not made verbally or even consciously. Such character commitments are made when "...the values in question are actually built into the social structure..." (Selznick 1957, p. 56).

The relative danger frequently associated with emergency response(s) creates an environment where unit and individual safety as well as effectiveness, are maximized by individuals responding to sometimes rapidly changing crisis environs in a synchronous manner. The internalization of the shared value system serves

...to mold the minds of individuals according to a definite pattern   which] creates a homogeneous organization, and this is an enormous aid to communication. A broad context of "understood" meanings ensures that in the performance of assigned tasks the spirit as well as the letter will be observed. Similarly, emotional identification with the organization creates resources of energy that may increase day-to-day effort and, especially be summoned in times of crisis or threat (Selznick 1957, p. 18, emphasis added).

Highly integrated emergency personnel develop a sense of understanding which not only assures the fulfillment of assigned activities in letter and spirit, but precludes the detailed specification of tasks to be performed. Hence emergency personnel, having internalized the shared value system, may begin to anticipate required tasks appropriately. Such an harmonious group response reflects both a functional dependence and a commitment to the shared value system.

The certainty of emergency role is directly related to the degree of integration of personnel in emergency organizations. Hence, role conflict will be most serious and have far greater emergency response implications when integration is weak (cf. Mileti 1985). An emergency response role is likely to be more fully understood by those having more experience in that role than by those with less experience. This experience includes both prior disaster experience and the more general experience associated with duration of service. Both enhance one's understanding of the expectations associated with the emergency role. The typical length of time in emergency service among emergency personnel represented exceeds 6½ years, yet only 8 reported experience in major disasters prior to the tornadoes of March 28, 1984. While the number of cases and measurement problems do not allow statistical generalizations, both length of emergency service and number of prior disaster experiences seem at least to be related to perception of the problem. Further, length of service in emergency organization roles seems to be negatively related to (1) the time involved in nonemergency organization roles, (2) the estimated proportion of personnel besieged by conflicting role expectations, (3) estimated seriousness of any reported instances of role conflict, and (4) the general seriousness associated with the problem as a whole. The general seriousness of conflicting role expectations and seriousness estimate associated with reported instance are higher for those personnel having prior experience. The average estimated time involved in nonemergency organization roles among the 53 not reporting prior disaster experience, however, is twice that of the eight reporting prior disaster experiences. Although the number of cases is very small, the estimated proportion of personnel experiencing conflicting role expectations are about equal, whether they have experienced a major disaster before or not.

These findings are seemingly consistent with the conclusions of Mileti (1985) in suggesting that integration in the form of experience on the job and with emergencies tends to make the emergency role clear. This clarity includes both the expectations associated with the emergency organization and those role expectations associated with other groups. For example responders not only know the kinds of expectations likely to be placed on them, from both the emergency organization and any primary groups, but also those groups recognize the realistic expectations for the responder. While underscoring the importance of training exercises, educational programs, and emergency preparedness in emergency management, these findings also highlight the existence and significance of conflicting roles in disasters.

These findings also seem to suggest that emergency responders obtain organizational and personal rewards based in part on their ability to provide assistance during crisis periods. This arises because emergency personnel are accorded organizational status to a large extent with respect to their acceptance of the organizational value system, together with their effectiveness during periods of relative crisis. To the extent that an organization's value system is shared by others, an in-

dividual's power, privilege and prestige, both in the organization, and within the community rests on crisis period performance (Lenski 1966). In addition, household members (particularly when they are family members) are ascribed some status on the basis of their responder's performance, and membership. Both the achieved status and that ascribed to the responder's family may actually be enhanced by the fact that often emergency performance is conducted under life threatening circumstances: at times these conditions entail extensive personal sacrifice (e.g. not fulfilling primary family group expectations). It is in this sense that family loyalties, rather than emergency organizational expectations, may result in the roles of abandonment, particularly when those expectations are of a lesser priority and diminished saliency. In essence, however, when primary group expectations are not life threatening, it seems likely family and organizational expectations will converge on community needs.

DISCUSSION

That emergency personnel report feeling some difficulty in fulfilling role expectations during crises (Drabek 1984) is a natural outgrowth of having multiple role obligations concurrent with the compression of the associated expectations during the crisis period. In describing role conflict as "...conflicting sets of *legitimized* role expectations such that complete fulfillment of both is realistically impossible," Parsons (1951, p. 280) describes a general circumstance, routinely handled during relatively normal times. This description implies that complete fulfillment of all roles may be both necessary and expected. Further, these expectations remain constant, rigid, unyielding or static through time. However, the legitimized role expectations associated with roles are not static or unyielding, but rather, flexible and accommodating. Behavioral expectations are guided by the "...ideal patterns which control the reciprocal behavior between individuals and individuals, and individuals and the social system..." (Linton 1936, p. 105). Because role expectations have various salience (e.g., some are essential for society to survive), the sanctions and rewards associated with such expectations also vary. Merton (1968:187) casts this variation of required social control as being "...roughly indicated by the terms *prescription, preference, permission*, and *proscription*..." (cf. Linton 1936). Such variable legitimization of role expectations adjusts "...the patterns which control the activities of individuals...in such a way that these activities can be carried on without mutual interference" (Linton 1936, p. 105).

The dynamic nature of roles is also a direct consequence of the functional interdependence of the division of labor (cf. Durkheim 1933). In order to meet role expectations, frequently individuals must depend on others to fulfill their own role obligations. Duplication of activities under the division of labor also means no one person is the only individual expected to conduct one particular activity (cf. Linton 1936). Further, should only one person be expected to fulfill a role, the sanctions for not doing so are likely to be severe--assuming the expected activity is critically salient. It is to everyone's advantage that role obligations be met. Because people are dependent on one another, meeting functional expectations reflects well on everyone. Hence, dynamically evolving legitimized role expectations simultaneously reflect the reciprocal nature of activity in the division of labor, and they diminish any attendant role conflict. This interdependence serves to reduce potentially conflicting roles when the strained role expectations are the result of time constraints. Time based role

conflict can be reduced by interrelating emergency activities, and even interrelating nonemergency roles and emergency activities. For example, if emergency personnel can check on family with minimal delays while responding to emergency needs not life-threatening this can alleviate role strain. Value based role conflict is not reduced through interdependence, but rather through a shared value system and the regulatory norms guiding legitimized role expectations. When the value system is not highly integrated, time induced role conflict quickly becomes value based. A strong integration of emergency personnel therefore helps to both prevent value based role conflict and mediate time induced conflict in the emergency response.

Conceptually role conflict is cast, either explicitly or implicitly, in terms of the potentially conflicting roles faced by individuals (cf. Killian 1952; Goode 1960; Parsons 1951). In crisis situations it is also important to distinguish between types of role conflict by location of emergency personnel—and those associated with them relative to the zone of disaster impact—and the individual's knowledge of the level and area of devastation (cf. Barton 1969; Quarantelli No. 49). The type of role conflict depends on the overall salience and priority associated with the potentially conflicting role expectations. As the legitimized role expectations of one social group changes relative to others, the concrete nature of a particular role conflict is expressed. Hence, an individual's total set of (potentially conflicting) roles defines the structure of role expectations for that person. The conceptual structure is completely specified by the number of social groups taken jointly, and the saliency and priority of the associated role expectations. Role conflict at each point in time is made explicit when the salience (which reflects the nature of the set of legitimate role expectations) and priority (which represents the associated urgency at that moment) for each role are specified.

The nine types of role conflict presented in Figure 1 result when only two associations (e.g., the family and an emergency organization), and a simple classification of role priority and saliency, (i.e. being in relative crisis, normalcy, or

Figure 1.   Types of Role Conflict Between
Family and Emergency Organizations

Emergency Organization

Legitimized Role Expectations

		Relatively Normal	Uncertain	Relative Crisis
Family — Legitimized Role Expectations	Relatively Normal	1. Routine Behavior	2. High Intensity Searching Behavior Organization Object	3. Emergency Personnel Response
	Uncertain	4. High Intensity Searching Behavior Family Object	5. Information, Communication Isolate	6. Low Intensity Searching Behavior Family Object
	Relative Crisis	7. Family Crisis Response	8. Low Intensity Searching Behavior Organization	9. Crisis Response Primary Group Dominance

uncertainty) are considered. Even this simple system of saliency and priority associated with role expectations reflects the individual and family location with respect to the zone of disaster and the individual's perception of the level and area of impact. The levels of priority and saliency described as relative normalcy, crisis, and uncertainty are to some extent arbitrary. These categories also reflect the elasticity of priorities associated with salient role expectations. In this two-role system, the priority of the legitimized role expectations associated with the emergency organization take clear precedence above the main diagonal, while the family role is dominant below. The diagonal cells in Figure 1, are characterized by equal priorities associated with the family and emergency organization role expectations. Because uncertainty is defined by the fact of not knowing—the priority of legitimized role expectations—searching behavior is anticipated in cells characterized by uncertainty. The direction and intensity of the anticipated searching behavior coincides with the group classified as uncertain. For example, in cells 2 and 8 the individual remains uncertain with respect to the expectations associated with the emergency organization. In both cells the search is directed toward discovering the circumstances dictating the expectations associated with the emergency organization. However, in cell 2 the intensity of the search is considerably higher than in cell 8, because of the relative priority associated with the family role. A similar comparison can be made of cells 4 and 6, with respect to the uncertainty of the family's situation and resulting expectations. This explanation is consistent with the often reported search for information regarding loved ones (cf. Drabek 1984).

The cells with similar priority, along the main diagonal (i.e., cells 1, 5 and 9), are generally characterized by primary group priority, but with direct influence of the individual's physical location with a particular group at the time. This is a pattern consistent with Killian's (1952) findings. Transitional role conflict often consists of an individual physically separated from both groups seeking information and responding to primary group needs first. However, should that person be physically located in either group, the immediate response is likely to be with that group, and sequentially followed with a response to the other group's expectations. For example, in cell 1, physical location with the family usually means that family role expectations are being fulfilled, while location with the organization of occupation typically implies individual behavior is fulfilling (or at least attempting to fulfill) those role expectations. The types of role conflict described within each cell also differs with respect to duration. For example, the routine behavior of cell 1 is typically a long duration system state. In contrast, uncertain cells (in particular, cells 2, 4, 6 and 8) are transitional cells, which upon obtaining information as the result of the searching are transformed into another type of role conflict and anticipated behavior. Transitions from one type of role conflict to another have variable transition times, with real time depending to some extent on physical characteristics of the situation, the disaster impact duration, and magnitude (e.g., available resources to assist searching behavior such as communications and transporation equipment). The system is also dynamic in the sense that transitions from any type of role conflict to any other are possible, either directly or by passing through other types of role conflict described by the model.

The theoretical model accounts for much of the observed behavior associated with role conflict. It describes many of the conditions under which types of role conflict occur. For example, the conditions for role conflict are most likely to be met

under conditions where both family and emergency organizations are clearly in a crisis (cf. Quarantelli No. 49; Dynes 1984; Mileti 1985). While role abandonment is rarely reported, the conditions under which it is likely to occur are relatively rare. The certainty that one's emergency and family roles are of high priority and saliency is to some extent dependent on the severity of impact. If whole communities are impacted the relative certainty is high while when only specific neighborhoods are impacted the searching associated with accompanying uncertainty is more prevalent. Hence, the infrequency of reported role abandonment is consistent with the frequency of the potential for its occurrence. However, the very few instances when it does occur, seem to take place when the family (or family member) is vulnerably exposed to the consequences of risk and the emergency responder's burden of organizational expectation is eased (e.g. via influx of emergency personnel or waning crisis). This seems to suggest that through the relaxed burden, emergency responders are able to recognize not only the hazards faced by their loved ones but the expectations this imposes on them.

Because emergency personnel often are variously located during impact of disaster, emergency officials should have a rehearsed plan of action, at least for initial activities. This plan of initial action cannot be either detailed or represent specific action, but must be flexible enough to include the accounting for the status of family members, and provide guidelines for emergency response for both sets of role expectations. These plans may vary from official to official, depending on emergency role and family responsibilities. When possible overall emergency response should be led initially by people with relatively few conflicting roles. Plans for initial action should consider major locational alternatives at the time of impact (e.g. home, office, in transit). A plan of initial action has the effect of making more-routine the transition from relatively normal states to emergency response states (in Figure 1). It provides emergency responders with a framework, or procedure, for setting priorities while establishing (and often meeting) the expectations of both family and emergency organization.

Because the flow of emergency response is to some extent time delayed, hospital response depends to a degree on the transport of victims: they must first be located and extracted. Therefore, not all emergency responders are needed immediately. When considered in light of relatively limited delays associated with reporting to duty station, managers may wish to consider sending some emergency personnel home prior to disaster impact, so that when these people are critically needed they will know the status of their families and be able to respond directly, without potential distraction associated with family status uncertainty. For those responders that are not impacted by the disaster, this has the effect of removing the need for family searching behavior (in cell 4 and 6 of Figure 1). For responder families that are impacted it allows them to satisfy family expectations, and minimally begin emergency response knowing the disaster's impact on their own family. In some instances, where impact on the family is particularly severe, the emergency responder may not be able to fill the emergency organization role—but emergency management officials do not expect severely impacted personnel to fully meet organizational expectations.

Emergency personnel should discuss the nature of emergency response, particularly their own role, with family members. This affords an enhanced understanding by the family of emergency expectation brought about by disaster. Emergency

responders should provide their own families with a simple plan for locating each other and providing impact information, such as a simple prioritized list of people or places where family members can check on each other's safety. Such a list, for example, could be: first try home, failing that try grandma's, then check in with a specific friend. If each member of a social network uses such a check-in system searching time will be reduced even more than it seems to presently require. A list of places/people for checking family status provides a simple mechanism to reduce searching time for separated families. A well used procedure for housefires is the agreement by family members to go to a specific meeting place outdoors: unnecessary,searching for family members in the burning building is thus avoided. Similarly, a simple check-in procedure in a disaster allows emergency personnel to quickly ascertain impact on the family, and often facilitates a more effective emergency response.

CONCLUSIONS

Conflicting role expectations in disasters, as at other times, are minimized through the dynamic adjustment of roles. Each role expectation is placed in the context of each other, ranked for priority and saliency, and allocated for fulfillment. The extent to which this adjustment is trouble-free largely depends on the degree to which an individual's multiple groups rest on a foundation of shared values. Three factors are important in assuring a shared value system among emergency responders.

1. Emergency organizations, like other groups, obtain new members through self selection. People identifying with the organization, its people, values and objectives choose to become members.

2. Organizations initially socialize new members, and members are differentially integrated into the organization. In emergency organizations this is particularly evidenced in training exercises and drills, assuring the clarity of role expectations in emergencies.

3. Active organizations maintain nearly continuous activity which serves to positively reinforce the goals, objectives, and vicariously the values of the organization.

4. Emergency responders are accorded both organizational status—and often status in the community based on the internalization of the organizational value system and their ability to perform in emergencies.

Performance in accomplishing organizational goals is the most crucial element of an individual's status within the organization. The degree to which organizational status bears directly on community status depends largely on the extent to which the organization is institutionalized in the community (cf. Selznick 1957). When organizations are highly institutionalized, like most established emergency response groups, the community status is shared by those people associated with the organization member. Hence, because primary group members are ascribed a certain status based on their emergency responder's performance, they are encouraged to trim away nonessential expectations in the immediate crisis period.

Periods of crisis are characterized by trimming away role expectations that are noncrisis oriented, and focusing on the core of the value system most likely to be shared among group members. Relatively normal periods are characterized by less focused role expectations, with various groups sometimes having divergent ex-

pectations. If it were not for the compression of activities in time during disaster response, role conflict would be more problematic in relatively normal periods than in periods of crisis. The compression of responsibility in the immediate crisis period leaves emergency responders with little time to recognize, let alone consider, the nature of potentially conflicting roles. Their descriptions of activity during the immediate crisis suggest the felt difficulty in fulfilling various role expectations is recognized only when their immediate burden is eased.

Role conflict is as much a part of the human condition as society itself. That this conflict is intensified in emergency situations is a natural outgrowth of the compression of role expectations in the limited time-frame imposed by disaster. Crises of limited forewarning allow the observation of this intensified role conflict in a relatively unincumbered setting. This research has found a variety of forms of role conflict in disaster situations, affecting a significant proportion of emergency personnel. Yet, simultaneously it has underscored the findings of others that indicate the disruption of community response to the emergency was minimal. Considered a serious problem among emergency personnel, role conflict in crises of limited forewarning affords a view of the dynamic role structure that is flexible, accommodating and resilient. The dynamic role structure recognizes both the dissipation of personnel reserves through role attenuation, and the expansion of personal reserves allowing the meaningful accumulation of roles in society.

NOTES

1. While this may be a function of reporting, it could also reflect a needed organizational change for better inter-organizational communication in disasters.

2. Information regarding warning and impact times provided through the courtesy of Donald Burgess, of the National Oceanic and Atmospheric Administration, National Severe Storms Laboratory in Norman, Oklahoma (c.f. NOAA 1984).

3. Initial contacts were also asked to provide information concerning the extent of death, injury and destruction in the community, particularly among those people likely to be interviewed, in order to keep the interviewers aware of and sensitive to the victim's grief and personal suffering.

4. The specific physical location at impact was not ascertained for seven cases.

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