# Assessing Contemporary Trends and Future Prospects in the Study of the Suicide Bomber

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## Abstract

While the analyses of who engages in terrorism have largely evolved away from early psychopathological accounts, studies that focus on suicide bombers still emphasize personality characteristics as the cause of involvement and contain static interpretations of motivation. This article provides a review of such approaches before offering a number of alternatives that potentially contain more value for moving terrorism research forward. These approaches are illustrated by a series of analyses of a data set of 219 Palestinian suicide bombers: a descriptive analysis of the socio-demographic characteristics of suicide bombers, their pathways into terrorist organizations, their spatial patterning and issues concerned with lethality. Collectively these analyses show how bringing together different theoretical frameworks can provide a stronger basis for the management of conflict and terrorism.

Academic understanding of who joins terrorist organizations has undergone many generational shifts since the field of study began. Personality indicators dominated analyses for a long time under the guise of psychopathological and later psychoanalytical interpretations. Data-driven analyses drawing on large-N and primary interview techniques, as well as theoretical modeling, largely replaced such endeavors. Collectively they assert that joining such a group is often a gradual pathway involving a plethora of push and pull factors including catalyzing experiences, identification issues, timing, culture, socialization processes, internalization of ideology, and access to the organization itself through personal contacts (Horgan, 2005; Taylor & Horgan, 2006).

Despite the advances in our understanding of this topic, there remain some overlooked aspects. The vast majority of these academic studies aggregate the role of ''terrorist'' to encompass everything from leader to bomb-maker to gunrunner and implicitly treat the pathway into terrorist involvement as being the same process for each role

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type. The sole terrorist role type to garner attention and thereby act as an outlier to this trend is that of the suicide bomber. This attention is arguably justified. Between 1980 and 2004, for example, suicide bombings accounted for 48% of all deaths through terrorism despite its use in only 3% of incidents (Pape, 2005).[1] According to the Global Terrorism Database, nonsuicide attacks between September 11, 1981,[2] and December 31, 2008, caused no fatalities 55.2% of the time, killed between one and ten people 39.7%, killed between 11 and 50 in 4.5% of attacks, and killed over 50 in 0.4% of attacks. Of the 2,046 suicide bombings, a higher figure of 46.7% caused between 2 and 10 deaths, 20.6% killed between 11 and 50 people, and 3.1% killed over 50 people. In sum, suicide bombings cause far more target fatalities than conventional acts of nonstate political violence.

Interestingly, recent empirical studies of the suicide bomber (as opposed to organizational strategy; Bloom, 2005; Pape, 2005) remain focused upon static interpretations of ''motivation'' (e.g., Kimhi & Even, 2004), ''evolutionary'' drives (Thayer & Hudson, 2010), and ''personality''. They also show particular interest in issues surrounding whether suicide bombers display indicators of suicidal intentions (Lankford, 2010, 2011; Lankford & Hakim, 2011; Merari, 2010). The inherent drama in the act of a suicide bomber killing may account for why such analyses remain rooted in such dramatic explanations. However, this runs against the more contemporary explanation in others areas of terrorism studies, where the contemporary approach is to view behavior and motivation as emerging from an incremental process of mobilization. Thus, while these recent studies on suicide bombers draw on empirical data, their interpretation of this data warrant closer examination.

This article provides a brief critique of these approaches. Using a unique data set of 219 Palestinian suicide bombers, the article then offers a number of other avenues by which we can gain a better understanding of who becomes a suicide bomber, as well as the suicide bomber's behaviors in the lead up to the suicide bombing and during the event itself. By providing an overview of such areas, the intention is to provide a basis for further empirical work that focuses on suicide bomber behavior, rather than suicide bomber psychopathology.

## Limitations of Existing Suicide Bomber Research

While studies focusing on the conventional ''terrorist'' personality have largely disappeared, they remain prolific in studies of suicide bombers. During 2010, studies of the suicide bomber personality focused on issues included evolutionary drive (Thayer & Hudson, 2010) and suicidality (Merari, 2010). An emerging set of research articles argues that suicide bombers display ''clinically suicidal risk factors'' (Lankford, 2010, p. 334). A key paper in this literature is Merari's (2010) interviews of fifteen imprisoned would-be Palestinian suicide bombers. Using a range of techniques including clinical interviews, personality tests, the Thematic Apperception test, and the House-Tree-Person Drawing test, Merari compared the suicide bomber group with a group of other convicted terrorists. Compared to the ''control,'' suicide bombers received more diagnoses

[1]This figure excludes 9/11.

[2]The first recorded suicide bombing.

of Avoidant-Dependent Personality Disorder (60% vs. 17%), demonstrated symptoms of depression more regularly (53% vs. 8%) and displayed more suicidal tendencies (40% vs. 0%). By contrast, the controls were more likely to display psychopathic tendencies (25% vs. 0%) and impulsive-unstable tendencies (67% vs. 27%).

These findings seem to run contrary to the growing realization within terrorism studies that psychopathology among the terrorist population is not significantly different from that in other populations (Horgan, 2005; Silke, 1998). One set of explanations for the discrepancy between the two domains may be the limitations with Merari's interview data and its interpretation. Arguably, the main problem concerns the issue of timing. As Horgan (in press) notes:

> Timing is of enormous significance: an interview with someone who has just been apprehended by the security forces will yield different outcomes from an interview with the same person days, weeks, or months later. This in turn, will yield different kinds of results when compared to the person who has been convicted…Time is a central variable that can heavily influence, if not determine, what is disclosed (and how) to the interviewer.

Schweitzer's (2006) research provides practical examples of the timing problem. Schweitzer accounted for the changing rationalizations of captured suicide bombers as their time in captivity progressed. The longer the duration of their imprisonment, the more political rhetoric became infused into their justifications at the expense of personal justifications. Therefore, Merari's claim of an identifiable personality difference between would-be bombers and the control group should be situated within its correct context. What Merari's results actually show is that postoperational failure, and/or capture by Israeli forces, Palestinian suicide bombers appear to display these traits more commonly than the control group. There is no evidence to suggest that these personality differences were apparent when both the bombers and controls were operational within the Palestinian militancy. The depressive and suicidal tendencies shown by the would-be bombers could well be a function of their failure to engage in the suicide bombing rather than the reason why they signed up to the mission in the first place.

Another problem concerns Merari's treatment of descriptive statistics to make generalizations. Imprisoned would-be bombers may differ in their outlooks depending on the antecedent behavior that occurred before Israel imprisoned them. Factors, such as whether the bomber defected or was captured, had volunteered or was recruited, had been recruited and trained for a day or a month, had been imprisoned for a week or for a year, will all impact upon the results and greater consideration of these factors should be highlighted. Given the relatively small numbers interviewed, it is understandable that for statistical purposes, these categories were aggregated. However, rather than over-relying upon descriptive statistics to chart the differences between two small samples, a series of standardized in-depth systematic interviews for individual case studies may have been more insightful. This would have allowed us to take account of the impact of crucial context-specific variables (e.g., length of time in prison) and other antecedent behavioral qualities (e.g., did they defect or were they captured?).

It is important to note that similar limitations might be cited of other existing research and personality-focused explanations of suicide terrorist motivation. For

example, Thayer and Hudson (2010) posit that the evolutionary motivations explain Islamic suicide terrorism. They state that suicide bombers tend to be nonalpha men who "will constantly look for ways in which they can have an impact or call attention to themselves to increase their social status and attractiveness as mates within the group, as a prelude to one day achieving alpha status themselves (p. 44)." Similarly, Kobrin (2010) asserts that the suicide bomber attacks the target who is subconsciously represented as the bomber's mother-figure. The fact the Thayer and Hudson (2010) and Kobrin (2010) studies are published in esteemed journals is symptomatic of how the academic study of suicide terrorism (at the individual level of analysis) has not progressed at the same level as the academic study of conventional terrorism. Both studies are reminiscent of the dramatic, nonempirical and problematic studies of the 1970s and 1980s, as critiqued by Horgan (2005), Silke (1998) and Victoroff (2005).

## Catching Up with the Field

In recent years, outside of research on suicide terrorism, the literature on terrorism has focused on the micro-foundational behaviors pre-recruitment and pre-action, as well as event-specific behaviors and outcomes to gain a better insight into the process of engagement (e.g., see Horgan, 2005). Micro-foundational behaviors are those behaviors that are distinct, inferable actions or events that take place within a terrorist life, which may or may not have had an influence on their motivation for terrorism. In recent studies of terrorism, much has been learned from examining this kind of behavior across large data sets of actors. For example, in one of the earliest large data set analyses of this kind, Sageman's (2004) demonstrated important consistencies in the nature of male salafi involvement in terrorism. Similarly, in their analysis of 222 female terrorists, Jacques and Taylor (in press) were able to identify some of the risk factors that precede women involvement in terrorism.

What follows for the remainder of the article is an effort to demonstrate what is possible from adopting this kind of approach within a data set of suicide bombers. Specifically, rather than focusing upon innate personality characteristics, the article explores the potential of examining socio-demographic characteristics of suicide bombers, and their developmental pathways into becoming a suicide bomber. It further considers various perspectives on examining event-specific (rather than person specific) behaviors, including the spatial patterning of suicide bombings and the relationship between suicide bomber behavior and the lethality of their attack.

## Method

### Sample

The analyses below draw on a dataset of 219 suicide bombers who successfully executed their suicide bombing attack between 1993 and 2008, on behalf of a Palestinian militant organization.[3] The database catalogs biographical, event-specific and outcome variables

[3]For an introduction to many of the cases mentioned below see Bloom (2005) and Hafez (2006).

pertaining to the suicide bombers and their pre-event behaviors. It integrates information from five sources (in order of relevance): (a) press articles from tailored Lexis Nexis searches, (b) communiqués from militant organizations, (c) biographically oriented human-interest stories, (d) online terrorism incident databases, and (e) press releases by government agencies. Other secondary resources include case study-specific academic books, public statements by leaders of militant, religious and political organizations, public opinion surveys by internationally renowned agencies, court transcripts, and interviews conducted by academics and journalists with members of militant organizations.

The database contains both quantitative and qualitative material, with various degrees of completeness. Variables in the below analyses with complete data include year of bombing, whether it occurred before or during the second Intifada, whether it occurred at a weekend, gender, fatalities and injuries accrued, and whether it was a lethal attack or not. Variables with incomplete data include age at time of suicide bombing (97.7% complete), what the target type was (95.9%), distance between hometown and attack location (96.2%), highest level of educational attainment (73.5%), and time of suicide bombing (58.9%). Ideally, all of the supporting evidence would be from first hand accounts and court transcripts as they provide the most rigorous accounts. However, given the low propensity for successful attacks outside of Western Europe and North America to be investigated, this is not always possible. When available, illustrative examples from court transcripts and first hand accounts are pushed to the forefront of the analysis. When unavailable, aggregated journalistic accounts from reputable sources and verified across a number of publications act as the best replacement. The aggregation of press reports and the lack of reliance on single case studies also help shift the analysis of the suicide bomber and their behaviors beyond that of the anecdote.

## Sample Socio-Demographic Characteristics

### *Age*

The 219 Palestinian suicide bombers in this database have an average age of 21.58 years at the time of their suicide bombing (range, 16–72). This is a comparatively young age compared to similar research on the Provisional Irish Republican Army ($M = 24.9$; Gill & Horgan, in press), global jihadists ($M = 25.7$; Sageman, 2004), and contemporary dissident Irish Republicans ($M = 35.0$; Horgan & Gill, 2011), and similar to Florez-Morris' (2007) sample of Colombian militants ($M = 20.0$). There was no significant difference in the age between those suicide bombers who caused fatalities and those who did not ($t < 1$). The relatively young age of Palestinian suicide bombers is consistent with Silke's (2008, p. 107) argument that the same factors that allure young men into illicit activity, including political violence, may include "higher impulsivity, higher confidence, greater attraction to risk taking and a need for status." Further, research shows that anger tends to reduce with age (Schieman, 1999; Simon & Nath, 2004), leaving young adults as a population particularly prone to experiencing anger. While this may explain the plethora of young people engaging in suicide bombing, there are a number of outliers to this trend in the Palestinian data set, including a 72-year-old grandmother.

### *Gender*

The Palestinian suicide bombers tended to be men. Only 5.5% of the sample is women, and this figure is similar to research on the Provisional Irish Republican Army (4.9%, Bloom, Gill & Horgan, 2012), ETA (6.4%, Reinares, 2004), and contemporary dissident Irish Republicans (2.7%, Horgan & Gill, 2011). Similar to these research endeavors, women ($M = 25.7$ years) also tended to be older within the Palestinian suicide bomber cohort than their male counterparts ($M = 21.9$ years). Once the 72-year-old female outlier was omitted, there was no difference between the average age of men ($M = 21.88$) and women ($M = 21.30$), $t < 1$. The finding that women represent a minority of suicide bombers is unsurprising when we take into account the criminology literature that focuses upon offender characteristics. Men are far more likely to engage in illicit behavior that either self-harms (Arteaga, Chen, & Reynolds, 2010) or harms others (Beasley et al., 2009; Friedman, 1998; Hauge, Skogstad, & Einarsen, 2009; Hershcovis et al., 2007). Although men were more active than women in suicide bombing, there was also a nonsignificant trend toward them being associated with attacks that had no victims (44.9% vs. 25%; $\chi^2(1) = 1.83$, $p = .17$). This might be due to the fact that Israeli security services look for young male suicide bombers, which allows the women to slip through security cordons (Bloom, 2005).

### *Educational Level*

Surprisingly, 29.2% of the sample has some experience of University, with the vast majority failing to fully complete their studies for a variety of reasons. Some failed to finish because of university closures, others because of financial constraints, and others because of membership of the group they eventually became a suicide bomber for. Only 2.7% completed a third level degree. Although a bomber's educational attainment was not significantly correlated with the number fatalities caused in a suicide bombing, those with some university education tended to cause more injuries ($M = 33.47$, $SD = 47.10$) than those without university education ($M = 22.86$, $SD = 32.75$); $t(89.2) = 1.65$, $p < .10$, 95% CI (0 23.42).

## Analysis and Discussion

### Suicide Bomber Pathways

The following section outlines three recurring events that individuals experience prior to becoming a suicide bomber for a Palestinian terrorist organization. These experiences were identified through process tracing technique (for more on the method, see Gill, 2008). The first event is socialization into a sub-group within society that supports violence predisposes the individual toward participating in violence. However, far more people experience these conditions and do not engage in militancy than those who do. The question thus becomes, what is it specifically about those who become recruited? This leads to the second event that may be characterized as a catalyzing moment (which can take many forms). Such a catalyst acts as a salient proximate motivation to join a

militant organization. Finally, pre-existing social or familial bonds typically facilitate the recruitment process. In other words, the experience of the catalyst narrows the field of potential recruits, and this field narrows further because of the need for access to the militant organization itself. As becomes clear from the discussion below, these three elements often are interrelated.

***Socialization Processes***

In terms of political socialization, propaganda and proclamations from legitimately perceived leaders supporting suicide bombing helped create a pool of willing Palestinian recruits by enhancing the status of previous militants. This can be characterized as the marketing of martyrdom. Families of suicide bombers often express honor to the media and typically, thousands celebrate the funerals of suicide bombers. Propaganda framing suicide bombers as celebrities plays a large role in helping others to choose the same path. Compelling sociological evidence suggests ''suicidal contagion'' exists following an extensively publicized celebrity suicide. Evidence also suggests that Palestinian suicide bombers often admire previous suicide bombers. Press reports of Ayat al-Akhras suggest that in the weeks before her suicide bombing, she collected the names and pictures of other Palestinian martyrs. Hisham Hamed plastered the walls of his family's business with posters of previous suicide bombers. Dispatchers of suicide bombers constantly reinforce the message to the would-be-bomber that what they are doing will bring about great benefits for their family. One failed suicide bomber outlined that her dispatcher ''was like a mother, she caressed me when I was upset and said that my whole family would be proud of me and that I was bringing them honour'' (Berko, 2007).

Social support for suicide bombings plays a key supportive role in the motivation of the suicide bomber. Support for suicide bombings within Gaza and the West Bank fluctuated between approximately 20% and 70% between 1995 and 2006. One of the most interesting observations we can extract from this opinion poll research is the disparity between those who can justify or support suicide bombings and the actual numbers who become suicide bombers. The large disparity indicates that attitudinal affinity with a cause is not a sufficient explanatory variable for participation. Clearly, other factors and motivations are at work concurrently. The next section deals with how experiencing a catalyst makes motivation to join salient.

*Catalyzing Events.* The term ''catalyzing event'' is used to refer to events that mark the point at which an individual is mobilization into terrorism. The focus on catalysts, rather than focusing on salient motive per se (e.g., Kimhi & Even, 2004), is that salient motive can be problematic as the main variable to explain why individuals become suicide bombers. Specifically, difficulties arise when there are two salient motives apparent, such as when a bomber was religiously devout before the death of a cousin (Dolnik, 2004, p. 847). In this example, is the salient motive a religious one or is it a personal one? The catalyst in this example is far easier to identify. The death of his cousin is the original critical juncture, which led the would-be-bomber down the path of becoming a suicide bomber. In other words, motivations can be multiple and overlapping (i.e., they

can be both nationalistic and religious), whereas catalysts tend to be specific tipping points that then make the underlying, overlapping, and multiple motives salient.

In the Palestinian data set, catalysts were found to be religious, political, personal, or factors relating to exploitation. Religious catalysts encompass instances of religious radicalization occurring without personal suffering, with religion providing the individual a discourse with which to understand his/her political environment as well as a script to follow to overcome perceived injustices. In the Palestinian data set, religious radicalization often led to the interaction with new networks, such as prayer groups. Prominent or charismatic leaders of these networks steered members of the group toward more radicalized interpretations of holy texts, the problems of the West and finally, militancy.

Personal catalysts are characterized by personal suffering as a direct result of the surrounding conflict. There are several forms of personal suffering in the Palestinian data. First, there are those who have lost family members or close associates because of the occupation. Examples include Wafaa Nour E'Din whose husband was killed and Nafez al-Nether, Reem al-Riyashi, Ali Juara and Sajida Al Rishawi who lost brothers in the conflict. Second, there are those bombers who have been imprisoned or arrested in the past. At least 24 of the Palestinian suicide bombers in the current data were imprisoned, which then acted as a catalyst toward encouraging them to become suicide bombers. Interestingly, if the attacks are considers in temporal order, at least 16 of the first 34 Palestinian suicide bombers were imprisoned before committing their attack. This suggests either that this sub-section acted as a catalyst less as time passed on into the second Intifada or that recruiters started to actively search for potential suicide bombers with clean records so as not to alert Israeli security. Third, there are those motivated by direct personal events. These include Wafa Idris who was shot three times with rubber bullets by the IDF, and Bassam Takruri whose chances of social mobility were impeded by recently unemployment and the university she attended closed down.

Political catalysts in the data set were more widespread and led to more altruistic motivations than the previous two ideal types. The political catalyst category consists of those suicide bombers who refer to specific events. For example, Ayman Radi referred to attempts by the Palestinian police to quell Islamic rioters as a catalyst to friends and family and Taysir Ajrami's suicide note claimed it was to avenge the recent deaths of five children in Khan Yunis and the targeted assassination of Abu Hnoud.

### *Familial Bonds*

The previously outlined aspects socialization and catalysts focus solely upon the "supply-side" of the process of becoming a suicide bomber and fail to account for the "demand-side" of joining a militant organization. In other words, by focusing on the underlying conditions that create large pools of potential recruits, they ignore impediments to membership. Since the early 1980s, social movement theorists have focused on the structural constraints to membership in social movements. They posit that structural availability is more important than attitudinal affinity to a cause since predisposition to become a suicide bomber is of little use if the would-be-suicide bomber does not possess the structural opportunities to join. Research on social movements has shown the crucial role of structural and network factors in addition to individual attitudinal factors

in motivating one toward activism (Fernandez & McAdam, 1989). In other words, motivation to join is rarely enough to become a member. Instead, recruitment into terrorism is largely based on familial and friendship ties and for others it occurs gradually across time (Della Porta, 1996; Ferracuti, 1990; Post, Sprinzak, & Denny, 2005; Sageman, 2004).

All suicide attacks in the current data were premeditated and organized by a militant organization, and organizational leaders carefully choose who joined because of the risk of any new recruit becoming a state informant being too large. Consequently, membership of a militant group was a prerequisite to becoming a suicide bomber. For example, following the deaths of her brother and fiancé, Dareen Abu Eishi approached both Hamas and Palestinian Islamic Jihad. Both organizations rejected her advances of wanting to become a suicide bomber. Eventually she joined the secular al-Aqsa Martyrs Brigade and became a suicide bomber for them. The al-Aqsa Martyrs Brigade turned down Mirvat Massoud before becoming a suicide bomber for Palestinian Islamic Jihad. Sami Hammed left Hamas and joined Palestinian Islamic Jihad to become a suicide bomber following Hamas' shift away from the tactic. Other examples highlight the importance of familial ties. Examples include Reem al-Reyashi, whose husband was a militant, Wafaa Nour E'Din, whose husband had been engaged in the conflict and was killed, Arin Ahmed, whose boyfriend was a Fatah gunman, and Amad Emuna, whose father and brother were well-known Hamas activists. Finally, friendship bonds are also apparent in many cases. For example, best friends carried out double suicide bombings in Palestine in January 1995, July 1997, September 1997, December 2001, January 2003, September 2003, and March 2004. Three best friends committed three separate suicide bombings over two days in May 2003 and seven members of the same Hebron football club carried out a wave of suicide attacks in late 2002 and early 2003. The coach acted as the recruiter.

## Spatial Patterning

Aspects of environmental criminology also hold much promise for the study of suicide bomber behavior. By focusing upon ''the way that individuals and organizations shape their activities spatially'' (Bottoms & Wiles, 1997, p. 305), this approach examines the location and timing of criminal events. The roots of such an analysis can be seen in crime pattern theory, which argues that the distribution of targets and crime site selection is dependent on an offenders' home location and willingness to expel effort. Specifically, this approach assumes that ''people interact more with people and things that are close to their home location than with people or things that are far away'' and that, consequently, the likelihood of offending decreases with increased distance from the offender's homestead unless the rewards of greater travel warrant the extra effort (Beauregard, Proulx, & Rossmo, 2005, p. 582). Interestingly, research finds that there are key differences in traveling patterns once the type of crime and individual characteristics of the offender are disaggregated. Beauregard et al.'s (2005) review of the literature shows that there are distinct differences in the travel distance of sex offenders depending upon age (older offenders travel further), the complexity of the offense (if additional offenses

such as burglary occur distances decrease), timing (weekend offenders travel further), experience (repeat offenders travel further), and location (sexual offenses that occur outside typically take place further away from the offenders home). Empirically, then, there may be differences in the travelling patterns of Palestinian suicide bombers across individual characteristics, timing issues, and target profiles.

The Palestinian suicide bomber database catalogs the distance travelled for 214 of the suicide bombers using geodesic measures through GPS Visualizer. Three outliers were excluded from the below analyses. A basic comparison of means illustrates that suicide bombers with University experience ($M = 23.30$ miles, $SD = 19.49$) travelled significantly further on average than those bombers with no University experience ($M = 17.96$ miles, $SD = 13.00$); $t(84.47) = 1.98$, $p = .05$, 95% CI [0.81 9.86]). This could be a function of individual capabilities in that the further the distance travelled, the more likely the individual would have to blend into Israeli society more seamlessly. The distances travelled in lethal attacks ($M = 22.08$ miles, $SD = 15.21$) averaged significantly further distances compared to the attacks that killed nobody other than the suicide bomber ($M = 16.10$ miles, $SD = 14.92$); $t(209) = 2.84$, $p < .01$, 95% CI (1.84 10.12). This is likely related to the next section's findings concerning the relationship between target type and fatality rates. Indeed, suicide bombings that targeted civilians ($M = 22.37$ miles, $SD = 15.64$) rather than high-value political, police or military targets ($M = 15.09$ miles, $SD = 13.92$), tended to involve significantly longer travel distances; $t(203) = 3.32$, $p < .01$, 95% CI (2.95 11.58). This is probably due to the structural availability of high-value targets that are closer to the refugee camps and cities Palestinian suicide bombers typically emerged from. The effects of the increased security measures during the second Intifada significantly decreased the average distance travelled between pre-Intifada attacks ($M = 26.74$ miles, $SD = 20.56$) and post-second Intifada ($M$ miles $= 17.94$, $SD = 13.50$); $t(44.26) = 3.27$, $p < .05$, 95% CI [1.76 15.83]).

A further aspect of the spatial and temporal domains of Palestinian suicide bombers is the fact that some Palestinian areas frequently produced suicide bombers in intermittent phases. This resembles the shifting nature of crime hot spots whereby increased police attention deflects the onset of crime into other geographic areas. Table 1 illustrates ebb-and-flow of suicide bombers from Nablus and Jenin across an 18-month period. During this period, there is only 8 weeks of overlap between the two towns producing suicide bombers. Although these findings are merely descriptive, they do show that individual traits and event-specific variables affect the likelihood of the suicide bomber travelling further or not in the commission of their suicide bombing.

### *Targeting and Lethality*

From an operational perspective, it may also be more fruitful to focus upon aspects of both targeting practices and issues that drive lethality. While routine activity analyses may provide insight into the incremental phases of individual attacks, there is also value in looking at the dynamic shift in targeting practices across time as well as the individual-level factors that may predict the scale of fatalities accrued by a suicide bomber. While the study of what makes terrorist organizations more lethal is beginning to

Table 1
*Bombers from Nablus and Jenin, May 25, 2001–January 5, 2003 (see Gill, 2007)*

| Dates | Town | No. of bombers |
|---|---|---|
| May 25–July 22, 2001 | Jenin | 5 |
| August 2–8, 2001 | Nablus | 2 |
| August 9–12, 2001 | Jenin | 2 |
| October 7–December 9, 2001 | Jenin | 3 |
| December 2–March 30, 2001 | Nablus | 12 |
| March 5–June 5, 2002 | Jenin | 6 |
| May 7–August 8, 2002 | Nablus | 10 |
| August 4–October 21, 2002 | Jenin | 4 |
| October 27, 2002–January 5, 2003 | Nablus | 4 |

emerge (Asal & Rethemeyer, 2008), there has been very little theorizing or empirical analysis of what aspects of suicide bomber traits increases lethality.

The following are some examples of inferences that are possible from such an approach. As mentioned previously, female Palestinian suicide bombers tended to successfully engage in a lethal attack more often than males. However, when male suicide bombers successfully killed others, they showed a trend toward killing more people ($M$ deaths = 4.80, $SD$ = 16.29), rather than significantly less people, than their female counterparts ($M$ deaths = 3.42; $SD$ = 5.82; $t(217) = .29$, *ns*). The timing of attacks can also make a difference. Those suicide bombers who attacks occurred in the afternoon injure significantly more individuals ($M$ = 48.96, $SD$ = 47.87) than attacks in the morning ($M$ = 26.39, $SD$ = 24.83; $t(107.1) = 3.43$, $p = .001$, 95% CI [9.54 35.59]). Finally, the nature of the attack influences its lethality. Suicide bombers who targeted civilians ($M$ deaths = 6.70, $SD$ = 19.89) killed significantly more than those who targeted high-value political, police or military targets ($M$ deaths = 1.79, $SD$ = 3.792); $t(149.49) = 2.771$, $p = .006$, 95% CI (1.40 8.41). Suicide bombers who targeted civilians ($M$ injuries = 38.58, $SD$ = 42.66) also injured significantly more than those who targeted high-value political, police or military targets ($M$ injuries = 6.78, $SD$ = 12.92); $t(171) = 8.01$, $p < .01$, 95% CI (23.96 39.64).

## Conclusion

Although studies that focus on the individual conventional terrorist have long since moved beyond aspects concerning personality or other dispositional thinking, the same has not occurred for the study of the suicide terrorist. While some of these analyses (e.g., Merari, 2010) demonstrate impressive methodologies and first hand data, their underlying assumptions can be questioned on theoretical and empirical grounds. Most importantly, analyses rooted in dispositional thinking provide little insight for operational investigators who seek to identify tangible events or actions against which they can intervene to manage the potential terrorist threat. This article explored a number of methodological approaches, coupled with illustrative examples from a data set of

Palestinian suicide bombers, that potentially hold more promise and significance for understanding and controlling the future use of suicide bombings.

The article utilized three types of analysis. First, the analysis of socio-demographic traits provided insight into who typically engages in suicide bombings. Such studies do not aim to develop a universal suicide bomber "profile," but instead illuminate the individual traits that make new terrorist recruits more likely to become a suicide bomber as opposed to a more conventional role type (Gill & Young, 2011). By identifying the type of demographic that is most vulnerable for engagement, it becomes possible to determine role-specific intervention points for stopping engagement. Second, the analysis of individuals' developmental pathways uncovered phase-specific intervention points of the radicalization process. Finally, analyzing event specific variables such as lethality rates, distance travelled, and crime hot spots allowed for further phase-specific interventions and risk assessment variables to be identified.

While the aim here was to highlight a number of routes by which the empirical study of the suicide bomber can progress, the examples themselves solely focused upon the Palestinian case. It is important to consider that these findings may differ across conflict theaters. Homegrown European-based al-Qaeda affiliated suicide bombers do not face the same geo-spatial travel constraints of Palestinian suicide bombers. This undoubtedly impacts upon the aspects of their opportunity structure and it will impact variables such as distance travelled and lethality outcomes. By the same token, al-Qaeda suicide bombers are not provided with the same organizational assets of command and control structures and an actively supportive community within which they are embedded. Thus, developmental pathways into becoming a suicide bomber for such an organization may differ therefore from the much more territorially based and hierarchically structured Palestinian groups. For the future academic study of suicide bombers to become and remain relevant to policy-makers, practitioners and warfighters, our focus as researchers should be empirical and based upon offender behaviors and the contexts and situations within which they occur.

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