Moderating role of risk perception on the certainty effect-counterinsurgency decision link: A focus on counter-Boko Haram decision.

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Abstract - In an effort to advance a psychologically oriented solution to the menace of terrorism, we employed a within group experimental design to examine certainty effects on counter-terrorism decision and whether risk perception could moderate such effect. Psychology students (n = 60) (mean age = 24.35 years, SD =2.85 years) took part in the study. Certainty was varied into certainty and uncertainty levels. A one-way ANOVA result revealed a significant effect of certainty on counter-terrorism decision. It was also revealed that risk perception moderated the effect of certainty on counter-insurgency decision. This result were discussed in consideration of the prevailing security challenges in Nigeria.

Keywords: certainty effect, counterinsurgency decision, menace of terrorism, psychologically oriented solution, risk perception,

INTRODUCTION

Insurgency is a peculiar warfare where non-state forces known as terrorists employ asymmetric means against the citizenry and the state military forces (Mohammed & Abdulrasheed, 2014). The northeast region of Nigeria can be described as an environment of mixed peace and war due to the activities of the Boko Haram terrorist group since 2009, and the deployment of state forces to tackle the sect, has met mixed reactions from many circles. The military operations in the area have required different and more specialized skills, though it has been argued that conventional warfare training could be modified for such operations. The reality of this battle so far, is its untold economic, social and psychological problems on not just the inhabitant of the region, but also on the entire country (Mohammed, Ibrahim & Suleiman, 2017). Onime (2018) documented that the negative effects of Boko Haram related insurgency in Nigeria has reached an alarming proportion in almost all facets of national life - Lives are lost on daily basis leading to population depletion, businesses are in comatose, investments are nose-diving, multinationals are closing shops and vacating the country, unemployment is soaring higher, and the populace live in fear. Clearly, insurgency poses a threat to governance and the growth of the Nigerian economy.

All efforts have been made and are being made, to find a lasting solution to the menace of Boko Haram related insurgency in Nigeria. This has led to the adoption of both short and long-term strategies by the government (Adetoro, 2012; Olaniyan, 2015). Immediate short-term measures aimed at curbing certain activities that lead to insecurity and loss of life are the most appealing. In most cases, weapon detectors and gadgets have been procured and employed at airports, seaports, land borders, government and private institutions, offices, banks, parks and checkpoints by both trained and untrained personnel (Awo, Mefoh & Ezeh, 2018; Awo, Mefoh & Nwonyi, 2018). The decisions to adopt the afore-mentioned measure (often referred to as counterinsurgency decision) is crucial owing to the scarcity of resources needed to meet

human needs (World Health Organization (WHO), 2001), and people must make adequate plans to ensure proper utilization of resources in order to avoid waste. The definition of counterinsurgency decision offered by Adebakin (2012) was adopted for the present study. Adebakin defined counterinsurgency decision as the employment of weapon scanners, detectors or devices by the state/security agencies to search for illegal arms and ammunitions in the possession of insurgents. It is the decision to use scanners and detectors at the various borders and checkpoints to checkmate the movement of illegal arms/weapons across Nigeria.

Certain factors influence the choice of adopting certain strategies in tackling insurgency and most of these factors are psychological in nature. An example this is the probability weighting function in Kahneman and Tversky's prospect theory (Kahneman & Tversky, 1979). It describes how people generally perceive and/or weigh probabilities. It suggests that certain outcomes (0% and 100% chance) are perceived as categorically different and weighted more heavily than uncertain outcomes (i.e. any other probability between 0% and 100%). This observation has been termed the certainty effect (Kahneman & Tversky, 1979). Mather, Mazar, Gorlick, et al (2012) wrote that certainty effect is observed in effort to maximize successes and minimize losses, because people overweight certainty, and successes are desirable outcomes, overweighting a sure success leads people to choose it over a risky success. Conversely, in the domain of losses, because people overweight certainty, and losses are unattractive outcomes, overweighting a sure loss leads people to not choose it over a risky loss. That is, the certainty effect as coined by Kahneman and Tversky predicts risk aversion in gains and risk seeking in losses when there is a choice between a sure and a risky option.

According to Ramirez and Levine (2013), most decisions are made through the understanding of a probable option compared with a certain one. Studies in different domains such as insurance, healthcare, disease prevention, business and investments have shown similar effects (Camevale, Inbar & Lerner, 2011; Johnson & Gleason, 2009; Weber & Chapman, 2005). They show that when people are sure of making a success (whatever the quantity), they are very likely to decide in favour of such success. Thus, individuals and groups are very likely to take an insurance cover against car accidents in a populated city where accidents are more likely to occur than in the rural areas where there are fewer cars, 70% of banks are more likely to finance a candidate in an election when the candidate belongs to the ruling party than sponsoring an opposition candidate, investors prefer investing in a firm or line of business where they are highly confident of recouping their investment in a known time.

A the key factor that influences human decisions is the decision maker's feeling and perception of the level of risk inherent in each of the available choice options (Mintz, Redd & Vedlitz, 2006). Risk is a psychologically and socially construed phenomenon. Riskiness of an event or action is based on perception and feeling rather than on fact, and this perception is in turn, based on qualitative, not quantitative characteristics of the hazard being considered (Hakes &Viscusi, 2004). Therefore, individuals exaggerate or down play the level of risk in certain events and actions based on their feeling, mood and past experience. To this effect, research have found a mood congruent judgment whereby individuals with past incidences of security problems tend to perceive and report every security issues as devastating and catastrophic (Wegener & Petty, 1996), whereas those with little or no past incidences of insecurity assign little or no importance to threats of insecurity despite the magnitude of such incident.

A line of research note that individuals exaggerate risk probabilities when its possible outcome involve loss of life of loved ones, but down play such probabilistic outcome when unknown persons are involved (Bouyer, 2001; Gregory & Mendelsohn, 1993; Johnson, 2004). Others (Armas, 2006; Rogers, 1997) show that individuals overestimate rare risks like plane crash and terrorist attack, road accidents, but underestimate risks that are chosen willingly like business and investment opportunities. In all, the two lines of research hold that individuals are more afraid of risks they are aware of than those they are not aware of.

Risk perception has the capacity to alter decision making as well as the relationship between certainty and counterinsurgency decisions strategy. This is because, it is expected that an individual's level of risk feeling and reactions, will to a great extent determine whether he/she will or will not approve of any counterinsurgency decision strategy irrespective of how confident he/she is that the strategy will be a success as envisaged. Taken together, it is suggested that risk perception will significantly moderate the

relationships between certainty counterinsurgency strategy decisions. High level of risk perception would increase the likelihood that an individual will approve the choice of procuring technological devices that will aid the fight against Boko Haram activities in Nigeria, whereas, low risk perception will attenuate the likelihood that an individual will prioritize such a choice.

Considerable volume of research has documented that perceived risk of terrorism was positively related to adaptive behaviors such as having an emergency supply. However, despite the influential influence of risk perception in human decision making, it is often overlooked in the analysis of the decisions in the realm of insecurity, and how it shapes approaches to tackle insurgency even when the actors and decision makers are certain and confident that their choice option was the best among available options. Sitkin and Weingart (1995) suggested for the inclusion of risk perception in the analysis of the certainty-insurgency decision link since such effect has been observed in other domains of human decisions on daily basis. It is our thinking that confidence level and probability weighing will largely influence counterinsurgency decisions both at the individual and group level, and this influence will be moderated by risk perception.

Method

Participants

Sixty randomly selected Psychology students, University of Nigeria Nsukka (43 male and 17female) were involved in the experiment (Mean age = 24.35, SD = 2.85). They were randomly assigned to 2 conditions of certainty (condition 1, certainty, has 30 participants; condition 2, uncertainty, has 30 participants). Approval for the conduct of the study was obtained from the UNN Research Ethics Committee, and all participants consented to be involved in the study. Participants were not offered any monetary reward for their involvement.

Materials

DOSPERT

DOSPERT-RP is the Risk Perception subscale of the Domain-Specific Risk-Taking scale for adult population (Blais & Webber, 2006). Its 13-items measure risk perception in ethical, financial, health, security/safety, recreation, and social domains. It is rated on a 7-point Likert format ranging from “Not at all risky” (scored 1), to “Extremely risky” (scored 7), and higher scores indicate higher perception of risk. Blais and Webber (2006) reported an internal consistency alpha of .83 and an inter-item correlation coefficient of .66 for the scale among English respondents. Awo, Mefoh and Eze (In print) reported an internal consistency alpha of .78 and a Confirmatory Factor Analysis (CFA) of .62 for the DOSPERT among a Nigerian sample. Examples of items in the scale are; how risky is “Going camping in the forest alone”; “Walking home alone at night in an unsafe area of town”.

Tackling insurgency in Nigeria

Tackling insurgency in Nigeria is the stimulus material used to measure certainty effect on counterinsurgency decision. It is a hypothetical plan of the Nigerian Government to procure and deploy technological devices to detect and control the movement of illegal arms and ammunition by the Boko Haram terrorist group in Nigeria (see procedure).

Counterinsurgency Decision Inventory

Counterinsurgency Decision Inventory (COINDI) developed by the researchers was used to measure counterinsurgency decision among the participants. COINDI has 7 items that are rated on 1-5 scales “Strongly disagree” (scored 1) “Strongly agree” (scored 5). (Higher scores imply higher level of decision to choose the use of technological devices to mop up illegal arms and ammunition as a strategy to counter Boko Haram insurgency in Nigeria, vice versa). Some items (1, 4 and 5) are directly scored, while others (2, 3, 6, and 7) are reverse scored with “Strongly agree” attracting 1 point, whereas, “Strongly disagree” is scored 5 points. Face validity approval rating of 70%-90% (mean % = 80%) was reported for the inventory among 5 scale experts. The inventory yielded .60 internal reliability alpha, and a Principal Component Analysis (PCA) construct validity coefficient of .75 for the present study among a sample of Nigerian university students.

Procedure

The 60 (43 male, 17 female) students that participated in the study were randomly selected, and exposed to 2 experimental conditions. Condition 1: certainty condition, Condition 2: uncertainty condition. Certainty was manipulated by giving varying information to the 2 conditions about a hypothetical counterinsurgency strategy proposed by the Nigerian National Assembly (NASS).

Condition 1 (certainty) got the following information:

Tackling insurgency in Nigeria:

The National Assembly (NASS) is proposing the use of technological devices to tackle the activities of the Boko Haram terrorist group in Nigeria. This devices will detect and control the movement of illegal arms and weapons by the group and other groups that pose a threat to security in Nigeria. Currently, there is high level of confidence that these devices will successfully detect these weapons and ensure their mop up by the security agencies. Many researchers and scientists are highly encouraged by the progress made so far and are convinced that these equipment will work effectively as they have been successfully used in other countries.

Condition 2 (uncertainty) were informed thus:

The National Assembly (NASS) is proposing the use of technological devices to tackle the activities of the Boko Haram terrorist group in Nigeria. This devices will detect and control the movement of illegal arms and weapons by the group and other groups that pose a threat to security in Nigeria. Currently, there is low level of confidence that these devices will successfully detect these weapons and ensure their mop up by the security agencies. Many researchers and scientists are lowly encouraged by the progress made so far and are unconvinced that these equipment will work effectively as they have been reports of its failure in some countries.

After the experiment, the participants waited for the next phase of the study which comes up in 3 minutes time. Within this period, they were asked to recall and write names of the favourite teachers since their primary school days. This strategy allows presented study stimuli to slither into participants' unconscious (Eze & Mefoh, 2015). At the expiration of the 3 minutes, the COINDI was administered on them. This procedure was repeated in condition 2. The participants were fully debriefed at the end of the study.

Design/Statistics

A within-group experimental design was adopted in this study. The conditions are certainty versus uncertainty conditions. Moderated regression was used to test the study hypothesis.

Results

Table 1: Descriptive statistics table showing mean and standard deviation of counterinsurgency decision scores based on certainty.

Variable	Level	Mean	SD	N
Certainty	Certainty	29.25	4.31	30
	Uncertainty	21.32	4.56	30

The descriptive statistic table shows that participants in the participants in the certainty condition had a higher counterinsurgency decision mean and standard deviation score (M = 29.05; SD =4.3 1) than those in the uncertainty condition who had mean score of 21.32 and SD score of 4.56.

Table 2: ANOVA results for effects of certainty on counterinsurgency decision.

Source of Variance	Sum of squares	df	Mean square	F	Sig	Eta 2	N
Certainty	1794.13	1	1794.13	169.95	.000***	.603	60
Error	1182.40	112	10.56				

Note: *** = P<.001, ** = p <.01

The ANOVA table indicated that certainty significantly affected counterinsurgency decision, F(1, 112) = 169.95, P < .001. Thus, as the effect sized showed, 60% of the variance in security strategy decision was accounted for by certainty.

Table 3: Moderation table of risk perception for certainty on counterinsurgency decision.

Model	R	R^2	β	SE	t	Sig
RPxCertainty	.71	.06	.36	.01	3.78	.000***

Note: *** = P <.001, RP = Risk Perception

Table three above shows the interaction between certainty and risk perception. Result of the moderation indicated that standardized regression coefficient was found for certainty and risk perception (β= .36, t = 3.78, P < .001). Therefore, risk perception significantly moderated the relationship between certainty and counterinsurgency decision.

Discussion

This study examined the moderating role of risk perception on the effect of certainty on counterinsurgency decision in Nigeria. First, the study result revealed certainty had a significant effect on security strategy decision. This implies that level of confidence determines the strategies that would be adopted to tackle insurgency in Nigeria. This finding is consistent with Chui, Hsu, Lai & Chang's (2012), Hadiwidjojo, Rohman & Sumiati's (2014), and Mintz, Redd & Vedlitz's (2006) observation that people who

are confident that a given decision option will lead to a desired result more than the alternative option, are more likely to take such option than those who have little or no confidence. This finding implies that among Nigerian undergraduates, those who are sure/certain that insurgency activities is best controlled by the use of technological devices due to its success in Western countries, will approve of its use, while those who are skeptical about the efficacy of such gadgets will not approve of its employment in the fight against insurgency/insecurity by the Nigerian government. The observation here is that security decisions are made by examining how the available decision choice option/alterative has worked in the past and in other situation or countries. This view is supported by the instance-based learning theory of decision making (Gonzalez, Lerch & Lebiere, 2013) which notes that majorly, past experiences and observation of other experienced states/nations guide security decision making.

The result of the study also revealed that a significant standardized coefficient was found for certainty and counterinsurgency decision. Thus, risk perception was a significant moderator of the relationship between certainty and counterinsurgency decision. This finding is consistent with the findings of Barret (2006), and Fredrickson (2003) that people's level of risk perception in interaction with their level of confidence that their actions/decisions will lead to the control of insecurity in their locality, significantly predicts the decision they make in such situation. This finding implies that one's psychological state, past experience with security challenging situations and their level of confidence in their security apparatuses play significant role in the decisions they make on how to procure security gadgets that could ensure adequate security of lives and property of the citizenry. According to Gonzalez et al's (2003) instance-based theory security decision makers interact with dynamic tasks such as environments, arsenals/weapons' efficacy, and individual difference such as differential risk perception level and these factors will jointly influence their final decision choice.

Implications of the Study

The result of the study implies that all the equipment, weapons, aircrafts, war planes and the personnel involved in the fight against terrorism in Nigeria should meet global best practices so that the citizens will be confident that their security is guaranteed. When the people are not confident and certain about the capacity and the capability of their armed forces to protect them, they may not feel free and confident to give out security tips as the security agents has often appealed for. The moderation of risk perception in the relationship between certainty and counterinsurgency decision implies that individuals who are high on risk perception interpret every security incidents as capable of depleting their psychological resources and as well threaten physical, emotional and psychological well-being and thus prefer the use of force to control insurgency activities instead of dialoging with them.

Limitations of the Study

The limitation of this study is the choice of undergraduates as they study population. It is known that they may not be experienced in security matters and decision. This may tend to limit the generalization of the research finding to the student population alone who may not be possess the technical knowhow required in the security sector.

Suggestions for Further Studies

Further studies should involve actual security agents as participants. This will in effect show empirical evidence of certainty on counterinsurgency decision with actual security personnel as direct respondents.

Summary and Conclusion

This study examined moderating role of risk perception on the certainty-counterinsurgency decision link. Sixty randomly selected undergraduates were involved in the study. Result of the study indicated that certainty affected counterinsurgency decision, and this effect was moderated by risk perception. These findings were interpreted based on the theoretical and empirical literature. The implications of the findings were discussed, the study shortcomings/limitations were stated, and suggestions were made for further studies.

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