



Peer effects and risk-taking among entrepreneurs: Lab-in-the-field evidence[☆]

Maria Adelaida Lopera^a, Steeve Marchand^{b,*}

^a Partnership for Economic Policy (PEP), Canada

^b Université Laval, Canada

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ABSTRACT

We study how social interactions influence entrepreneurs' risk-taking decisions. We conduct two risk-taking experiments with young Ugandan entrepreneurs. Between the two experiments, the entrepreneurs participate in a networking activity where they build relationships and discuss with each other. We collect data on peer network formation and on participants' choices before and after the networking activity. We find that participants tend to make more (less) risky choices in the second experiment if the peers they discuss with make on average more (less) risky choices in the first experiment. This suggests that even short term social interactions may affect risk-taking decisions. We also find that participants who make (in)consistent choices in the experiments tend to develop relationships with individuals who also make (in)consistent choices, even when controlling for observable variables such as education and gender, suggesting that peer networks are formed according to unobservable characteristics linked to cognitive ability.

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1. Introduction

Risk plays a fundamental role in economic decision-making. For instance, evidence suggests that entrepreneurship is associated with a higher than average tolerance toward risk (Cramer et al., 2002; Ekelund et al., 2005; Ahn, 2010). Risk preferences may also affect businesses' success rates conditional on entry (Caliendo et al., 2010). But do individuals make risk-taking decisions solely according to their own risk preferences, or are there other important determinants of these choices? In this paper, we study the role of social interactions on risk-taking among groups of entrepreneurs. Using an original experimental design, we find a significant impact of conformity on risk-taking. Our findings suggest that even short-term social interactions are sufficient to affect entrepreneurs' risk-taking behaviors.

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* Corresponding author.

E-mail addresses: maria.lopera.1@ulaval.ca (M.A. Lopera), steeve.marchand@ecn.ulaval.ca (S. Marchand).

Entrepreneurs face more risk-taking decisions than paid employees in their daily life, which makes them a particularly interesting population to study the determinant of risk-taking. To focus on this population, we conducted lab-in-the-field experiments on risk-taking within workshops organized for young entrepreneurs in Uganda. Conducting these experiment in a developing country allows to incentivize participants with large amounts relatively to their income.¹ The workshops included a networking activity where entrepreneurs develop new relationships and converse with each other. We collected detailed information on who participants conversed with during this activity. The entrepreneurs also participated in two risk-taking experiments: one before and one after the networking activity. These two experiments are adaptations of the well-known (Holt and Laury, 2002) multiple choice lotteries designed to measure risk aversion. The two experiments, combined with data on the peer network formation, provide an innovative experimental design that allows us to capture the causal effect of social interactions on entrepreneurs' choices with respect to risk.

We find significant social conformity effects: participants tend to make more (less) risky choices in the second experiment if their peers made on average more (less) risky choices in the first experiment. This suggests that social interactions may counterbalance individual risk preferences. Given some risk preferences, an entrepreneur could become more (less) inclined to take risk following a relatively short discussion with an entrepreneur who is more (less) risk tolerant. In the second experiment, part of the participants were assigned to an experiment that included an ambiguity component (i.e. uncertainty on the exact probabilities linked to the lotteries' outcomes). As pointed out by Klibanoff et al. (2005), the uncertainty on the probabilities in the lotteries gives more room for subjective expectations to affect decisions. It is possible that social influence affect these subjective beliefs differently than attitude toward pure risk.² We also distinguish between preferences to conform with *successful* peers (who made the choice that led to the highest payoff given the lotteries' results) from preferences to conform with *unsuccessful* peers (who made the choice that led to the lowest payoff given the lotteries' results). Under pure risk, we find that participants tend to conform with successful peers, but not with unsuccessful ones. However, when the experiment includes an ambiguity component, we find that participants tend to conform with their peers regardless of the outcome.

Our design allows us to control for homophily, which is commonly a challenge in the estimation of peer effects. Homophily is the tendency of individuals to develop relationships with people similar to themselves. This behavior creates a correlation between one's peer variable (e.g. peers' average outcome) and his own choice even in the absence of peer effects, leading to identification issues. Attanasio et al. (2012) present evidence that individuals form social networks according to similarities in risk attitudes. However, in their context, as opposed to ours, individuals form networks with the objective of pooling risk. Thus, it is not necessarily the case that this behavior will also occur in our context. Nevertheless, individuals could still develop relationships according to some factors that also affect risk preferences. In other words, the peer network formation may be endogenous. There is a large and expanding literature that seeks to control for endogenous networks (for example, see Goldsmith-Pinkham and Imbens, 2013; Arduini et al., 2015; Qu and Lee, 2015; Boucher, 2016; Hsieh and Lee, 2016). However, controlling for endogeneity necessarily requires strong assumptions.³ Our design allows us to identify peer effects in the presence of homophily under weaker assumptions. We use choices made in the two experiments to control for time-invariant individual characteristics through a first-difference approach. Assuming that individuals develop relationships based on these time-invariant characteristics is sufficient to rule out that the relationship between one's choice and those of her peers is caused by homophily. Furthermore, we can directly test for homophily effects. The choices made in our first experiment cannot possibly result from peer effects, because this experiment takes place before the networking activity. Therefore, the observed similarities between individuals' choices and those of the future peers they have not yet met can be used to identify homophily effects. We find no evidence of homophily according to characteristics that affect risk choices.

We also study the impact of social interactions on the consistency of individuals' choices. Indeed, in multiple choice lotteries experiments, some combinations of choices are inconsistent with standard risk preferences. We therefore test for homophily effects according to characteristics that affect the consistency of choices. We find that participants who make (in)consistent choices tend to develop relationships with individuals who also make (in)consistent choices. We finally test for social learning peer effects that would cause individuals to make more consistent choices if the peers they met made more consistent choices. We find no evidence of such social learning effects.

We contribute to the literature on the determinants of risk-taking, as well as the literature on peer effects and risk-taking. Firstly, there is a growing literature that suggests risk attitude vary across contexts (Barseghyan et al., 2011) and over time (Baucells and Villasís, 2010).⁴ Understanding the factors that drive these variations is of particular importance to understand decisions about becoming an entrepreneur. Evidence suggests that family dynamics are important in shaping individuals' preferences toward entrepreneurship. Dunn and Holtz-Eakin (2000) find that parental entrepreneurial experience

¹ For example, as we state latter in the paper, the highest possible payoff in one of our experiment is 10,000 Ugandan shillings, which represents more than 16 h of work at Uganda's 2012–13 median wage.

² A paper investigating how risk attitudes may change with and without ambiguity is Cohn et al. (2015). They find that ambiguity causes no differences in how their treatment (showing participants a graph of stock market boom or crash) affects risk attitude. They interpret this finding as evidence that their treatment affects pure risk preferences, and not subjective expectations.

³ For example, Goldsmith-Pinkham and Imbens (2013) assume that there exist two unobserved types of individuals and that those of the same type have a greater probability to become peers. Together with other distributional assumptions, this allows them to write the joint likelihood of the observed outcomes and peer network.

⁴ Risk attitude may also be affected by emotional states such as joviality, sadness, fear and anger (Conte et al., 2018), or by stress (Cahliková and Cingl, 2017).

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