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Enthusiasm of the Few and Entrapping Bandwagons in Groups with Peer Effects: An Experimental Study

Yves Breitmoser, Jonathan H.W. Tan,
Department of Economics, European University Viadrina, Frankfurt (Oder), Germany
and
Daniel John Zizzo
School of Economics, University of East Anglia, Norwich, UK

As other forms of externalities, peer effects are of considerable interest in shaping public policy (e.g., Laux, 2000). Some of them concern a choice whether or not to engage in activities such as binge drinking, smoking, taking drugs or engaging in criminal activities. Newspapers and websites often decry the effect that popularity and peer pressure lend to these activities (e.g., Thomas, 2002; DiClemente, 2006; Devitskakis, 2006). In USA, some years ago the Department of Education funded a project to reduce the incidence of binge drinking at Northern Illinois University with an advertising campaign to shift perceptions of the popularity of binge drinking (Haines, 1996). In the UK a furious political debate has been raging recently on whether the 1999 introduction of Antisocial Behavior Orders (ASBOs) to curb antisocial behavior[1] may have had counterproductive effects, after a recent policy study found that ASBOs are treated as a 'badge of honour' and, as a result, in the words of a mother with three sons on ASBOs, "some of the friends are left out now because they are not on an ASBO. I think they all want one. I know a boy that's hellbent on getting an ASBO because he feels left out."[2]

This paper considers an experimental test of a model where the enthusiasm of the few leads others to join in the activity even though they would have rather not, had no one got going. By this, we mean that their welfare is lower by joining in the activity than it would be if no one joined. However, because of the enthusiasm of the few, their hand is forced. We consider whether this is borne out in an experiment with a dichotomous choice and with payoff externalities built in the incentive structure, and we verify the welfare implications. There are two key elements in this story: first, there is a hardcore of enthusiasts who would engage in the activity anyway; second, social ties between members of the group produce peer effects, implying that the choice of an activity increases the returns from engaging in the same activity (in terms of social acceptance) and reduces the returns those from not engaging in it (in terms of social stigma).

Our experiment involves four different treatments, differing in the size of the payoff externalities and the relative benefit from joining the club (engaging in the activity). All the treatments have the same benchmark theoretical prediction: all should

[1] An example of ASBO is to forbid someone to go to a shopping mall or through other well defined geographical area. ASBOs carry a threat of imprisonment if they are not respected.
[2] Cited from Travis (2006); see also, for example, Youth Social Board (2006), Ford (2006), Barratt (2006) and BBC (2007).

join the club. However, the welfare implications of joining the club differ across treatments and, in one treatment, three subjects out of four would be better off by not joining the club than by joining it. Taken together, the treatments allow us to test the robustness of the theory and to investigate the welfare implications of network externalities in a simple setup. We find that our model predicts behavior rather well: the model predicts that everyone should join and experimentally about 80% of the choices were to join; a fraction of the remaining variance can be explained if, following Fey et al. (1996), we allow for errors in a quantal response equilibrium approach.[3] In terms of welfare implications, we find that entrapment does occur systematically as the model predicts, and observed aggregate surplus is lower than if all had joined the club and, in three treatments out of four, than if none had.

We feel that this is a plausible stylized representation for activities such as trying to join the club of ASBO membership or of becoming a smoker, a drug addict or a binge drinker. It is plausible to assume that some agents would join the activity anyway, and, because some do and there is a general perception that they will, others join in if peer effects are present. Empirical evidence on peer effects robust to the identification and endogeneity problems discussed by Manski (1993, 1995) has been found to different degrees, using a variety of methods, in relation to binge drinking, drug abuse and smoking (Lundborg, 2006; Kawaguchi, 2004; Krauth, 2005, 2006; Powell et al., 2005; Clark and Loheac, 2004; Kremer and Levy, 2003; Gaviria and Raphael, 2001; Norton et al., 1998; Case and Katz, 1991). Glaeser et al. (1996) use a simple variance-based test to show the importance of social interactions for the likelihood of committing a number of crimes, especially those associated with youth culture (such as auto theft and larceny).[4] Social approval incentives have been found to matter by Rege and Telle (2004) in a public good contribution experiment. Our experiment suggests that not everyone falls in with the club activity, but, also, that many do.

[3] We also consider the extra explanatory power of adding simple social preference transformations (on social preferences, see, e.g., Sobel, 2000).

[4] Glaeser et al. (2003) speak of social multiplier effects.