We initiate the study of naivete-based discrimination, the practice of conditioning offers on external information about a consumer's naivete. We identify a broad class of situations in which such discrimination typically lowers social welfare. In our primary example, a credit market with time-inconsistent borrowers, improving lenders' information about borrowers' short-run taste for immediate gratification (beta) or naivete about this taste (beta-hat) always lowers welfare. Because non-sophisticated borrowers underestimate their willingness to pay interest on a loan, lenders raise the amount of credit above optimal. Information about consumers leads firms to raise inefficient lending to consumers more likely to be naive and to lower inefficient lending to consumers more likely to be sophisticated, while raising total lending. We identify precisely what kind of information is welfare-decreasing. We show that information that allows firms to learn about the naivete of consumers with given beliefs always strictly decreases total welfare, but information about a consumer's beliefs has at most distributional implications, while information about tastes is neither necessary nor sufficient to decrease welfare. We show that the logic of our results extends to other markets, such as bank accounts or hotels, where consumer naivete may play a role and the distortion from exploiting naivete falls on both types of consumers. We also point out important settings outside this class, and identify the effect of information about naivete in those cases.